YACHTING

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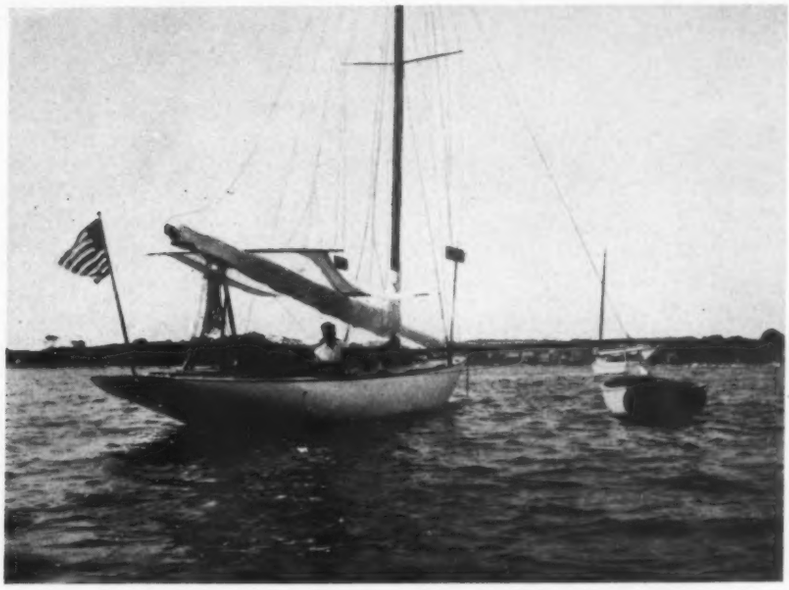


"Mermerus," a 36-foot converted "R" boat, made an ideal boat for week-end and limited summer cruises

A Summer Morning
From a Painting by Montague Dawson

Week-Ending in "Mermerus"

By FRANCIS GOODWIN

TWO days and two nights scarcely constitute a cruise; certainly not the sort of cruise one dreams of on long winter evenings before the fire, such as a summer on the coast of Nova Scotia, a month or so in the Gulf of Maine, or an autumn on the Chesapeake. Yet there are those of us for whom these idyllic voyages seldom achieve reality except in the limbo of dreams; for whom time, the yachtsman's most precious and elusive possession, is always just around the next headland. To many of these dreamers two days and two nights, the limit, perhaps, to be extracted from a busy week in the city, do in truth constitute a cruise — a passage to a port well-known but ever different, whence a return may be accomplished with some, but not too great a degree of certainty. For many of us these week-ends form a very large part of our season's sailing. There is always the hope that we may reach some new and unvisited haven or, perhaps, due to the favorable weather we are constantly expecting, extend the run miles further to the eastward or the westward, as the case may be. The weather becomes a far more important factor when one must of necessity cruise on the same two days each week. Often we are forced to view five perfect days from an office window, and on the sixth get underway with a falling glass and leaden sky. Week-end cruising in a small boat is a sport which requires eternal optimism.

Mermerus, 36-foot converted "R" boat of exceptional beauty and wholesomeness, is to us the ideal week-ender. Once a racing boat of unusually fine construction, with a record of two successful seasons at Marblehead and on Buzzard's Bay, she is now a cruiser. Her conversion by her former owner was accomplished with a minimum of additions and almost no alteration, except the shortening of her mast by some two feet, and the consequent reduction in sail area. Slim, deep, long-ended and short-keeled, she is a type which has few advocates among cruising men. Yet the longer one sails small yachts and the more one experiments with the ideal boat, the more convinced one becomes of the constant compromises necessitated in planning any small cruiser. *Mermerus*, however, is not an extreme type of racing boat as we know it today. On her 36 feet of overall length she carries a waterline of 25 feet, and her beam is just under 8 feet.

She is a thoroughly normal sort of boat, with very moderate sections, and fairly full forward. Her double-planked mahogany construction is a source of constant satisfaction, particularly at the end of a long season, when the closest inspection fails to disclose a seam showing in her white topsides. Forward, her deck is without openings so that all gear stowed in the forecastle, such as bedding, linen, clothing and light sails, always keep perfectly dry under all conditions. Amidships, a very low and narrow flat-topped house gives plenty of foot and deck room, while the cockpit is of a

size ample for comfort of living by day and for sleeping under an awning in fine weather.

Below, the layout is of extreme simplicity. A forecastle, always dry, is utilized exclusively for stowage, all bedding and such gear being kept in canvas bags. Abaft the mast under the house is a toilet to starboard and a large hanging space to port. Two panelled bulkheads, which may be unshipped if necessary, separate the forecastle from the main cabin, which contains two full-length transom berths, shelves and bookcase. Aft, to port, are ice-box, stove, and lockers for china, utensils and food. Beneath the cockpit the water supply is stowed in jugs, and to starboard there is space for charts, folding table, etc. All interior fittings have been kept extemely light and may be removed without undue difficulty. Comfortable sitting headroom is maintained throughout — all that can be expected in that hull. A larger house would only ruin her looks without gaining real headroom.

In light airs "Mermerus" slipped along nicely and could be relied upon to get home on schedule

Her fine hull makes her fast, and still provides comfortable accommodations for two

But it is the performance of *Mermerus* under all ordinary conditions which to my mind make her an outstanding little cruiser. At her tiller, driving to windward in a fresh breeze or ghosting in the faintest zephyr, one forgets the lack of accommodations below. Her steering qualities off the wind, particularly when dead before it, are a joy forever and give a sense of steadiness seldom found in short-keeled boats. Wet to windward in a breeze she must be, of course, but she never pounds, and always gives one that feeling of rushing forward and that sense of absolute control so often missed in the cruising boat. Although she sails at a considerable angle of heel, she is stiff and carries her sail easily. With jib to weather, or under trysail, she heaves to with ease and remains comfortable and dry in really heavy weather.

To most cruising men *Mermerus* has perhaps little to recommend her. She is obviously not the "offshore" type, nor is she admittedly "able to go anywhere." Yet if one is really limited to week-end cruising, and unless compelled to sail in waters more exposed, or with average weather more boisterous than that commonly met by yachtsmen along the New England coast in summer, one cannot take advantage of the so-called offshore cruiser. Most of our coastwise cruising is, after all, largely in sheltered or semi-sheltered waters and many a fine deep-sea schooner or ketch has never been offshore in her entire career. If one has a really small cruiser which can "go anywhere," she rarely gets anywhere under sail in our average conditions.

Of course, the obvious remedy for this, now almost universally applied, is the auxiliary motor. It enables the small cruiser to get almost anywhere along the coast in light or moderate weather with comfort and despatch and without regard to sailing qualities. It successfully eliminates much so-called wasted time getting to windward against the tide, in and out of harbors or up rivers, and injects into week-end cruising that certainty of return on a Sunday night so necessary for most of us. Yet in the type of small sailing cruiser like *Mermerus*, power has not been found necessary. Her speed and ease of handling under nearly every condition make it possible to get just about where one wishes to, and home again, with as much certainty as one really needs.

The home port of *Mermerus* is Essex, six miles above the mouth of the Connecticut River. Those six miles of tidal river form an ever-changing and always interesting start and finish of a week-end cruise. Once abreast the outer light at Saybrook, the eastern half of Long Island Sound, Gardiner's Bay, Fisher's Island Sound and the coast eastward to Point Judith and Block Island form a varied and delightful ground for short cruises, with harbors enough to last one a summer. The tidal current in the Connecticut River is strong — three to four knots at springs — and the channel considerably restricted for deep-draft boats. At Lyme the New Haven Railroad bridge crosses, and just above is the Highway Bridge of the Boston Post Road. The negotiation of these narrow, granite-walled passages with the tide boiling through them and the wind cut off by the giant steel draws towering above, is always an interesting, if somewhat nerve-wracking performance under sail. The innumerable combinations of flood or ebb tide, with wind of varying strengths from different quarters, make it a new and separate problem each time. To this problem is always added the possibility of the railroad bridge holding one up until a train has passed — and it seems that trains on the New Haven run very frequently.

For the cruiser using Essex as a base, these six miles of lovely river, with their tides, shoal spots and bars, drawbridges and other problems, must be traversed each passage to the Sound, and again on each return. Obviously an ideal proposition for a powerboat, of which there are many on the river, but for the little sailing cruiser without power an endless source of interest and new experiences. Countless thoughtful friends have submitted delightful plans for eliminating this river sailing for us by the use of an auxiliary, an outboard on the dinghy, by towing, or by the removal of our base to the mouth of the river. While most of our

sailing is, of course, on salt water, these little passages in the river at the beginning and end of each week-end hold more fascination than all the rest. In four years of week-end cruising between May and October, *Mermerus* has been caught but four times, and two of these have been due to being storm-bound in autumn gales in harbors far from the Connecticut. For this sort of sailing without an auxiliary, a boat must be a smart performer under sail. In this *Mermerus* has never been found wanting.

Then there is always the difficulty of carrying six feet of draft into places where there is little water. Last summer we were initiated into the hitherto unknown beauties of one of the loveliest and least used harbors on Gardiner's Bay. While cruising in company with "Hammy" Maxim and his big, broad-beamed Crosby cat *Black Duck* — one of the few cats with her original and overpowering rig — we were inveigled, not without some perturbation, into attempting to enter Coecles Harbor on the east side of Shelter Island. The chart shows an inviting landlocked refuge inside, but the entrance appears as a discouraging mass of shaded surfaces and shoal soundings, devoid of buoys. *Black Duck's* skipper professed familiarity with the harbor and its entrance, not to be wondered at, since, with board up, *Black Duck's* draft is not worth mentioning. The channel, Maxim told us, was good for five feet for perhaps a quarter-mile until it opened out into the deeper water inside. Arriving off Ram Head in the early afternoon, we followed him in. A light W.S.W. breeze just enabled us to lay the channel close-hauled between conveniently placed private buoys. It was within an hour of high water and, although the bottom was plainly visible beneath us for some distance, *Mermerus* stood serenely in, with water to spare beneath her six-foot draft.

We fell in love with Coecles Harbor. There are half a dozen different anchorages within that lovely lagoon with its almost deserted wooded shores. Its large area is sufficiently broken so that there is never enough sweep to raise a really unpleasant sea. Across the eastern end a low sandy arm, bare except for a deserted fisherman's shack, almost closes the entrance like a protecting arm. Once inside, *Mermerus* was imprisoned after the tide fell and to get out next day meant a start at dawn — all part of the charm of such an anchorage. We have made a number of cruises to Coecles Harbor since, with a varying lot of adventures in the entrance channel. There may be some portions of the bottom which *Mermerus'* keel has not explored, but not many. One memorable afternoon we arrived off the entrance at two o'clock, grounded, kedged off with great labor, immediately grounded again, kedged off, and continued for over two hours to feel the contour of the bottom until the tide was high enough for us to wriggle in and come to anchor after five. Go aground often enough in any shoal channel and you very soon become tolerably familiar with it. There is romance about a harbor which may be entered only at high water.

Rail down

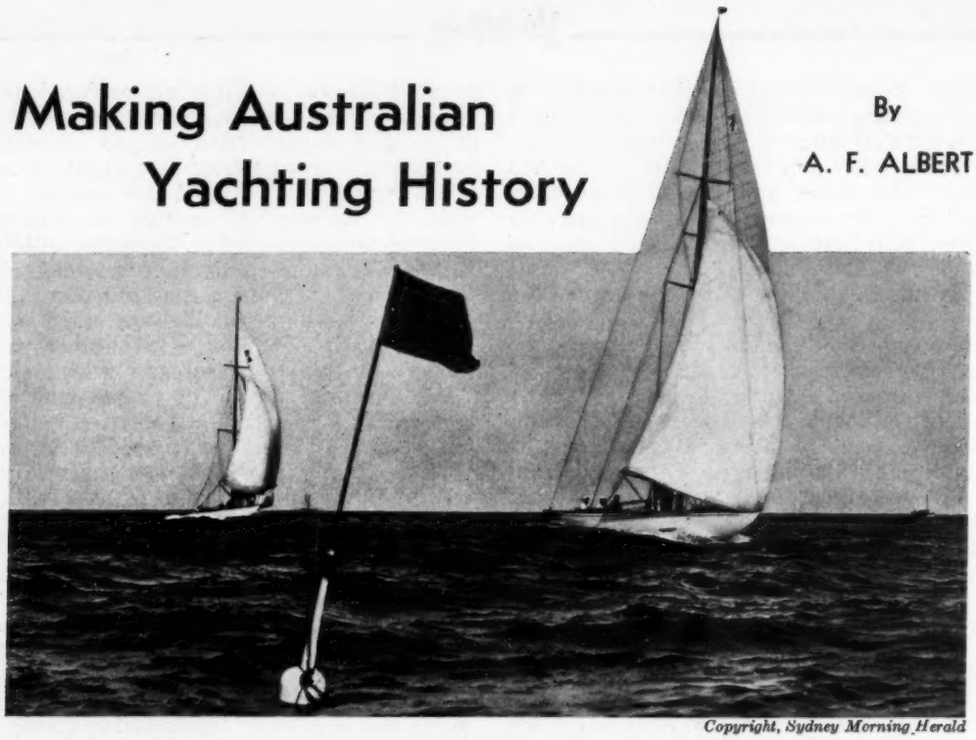
Cruising in company with another yacht adds tremendously to the pleasures of week-ending in a small boat. One must have, of course, not only congenial friends, but the other boat must not differ too greatly in size or speed from one's own. A little variance adds to the fun, particularly if the two boats vary under different conditions or on different points of sailing. *Mermerus* has cruised rather extensively with *Black Duck* and the two boats could not be more diametrically opposed in type. With her enormous mainsail and light displacement, *Black Duck* will usually beat *Mermerus* off the wind in light weather, whereas going to windward in a breeze we leave her hull down in no time. We have cruised a great deal in company with a 46-foot staysail schooner, consistently having the edge on her in light going but hopelessly outclassed in strong winds, except possibly dead to windward. Here the sheer fun of the racing element enters into cruising.

There comes a time along the latter part of September when the frequent heavy nor'-westers make it a very uncomfortable business to be caught twenty or thirty miles southeast of home. It is at this season that we have come to appreciate the pleasures of a week-end up the river. Here one has miles of beautiful water, the shores are a riot of autumn color and, with a little attention to the tides, one can always get home even without an auxiliary. After a season spent on salt water, these week-ends up river have a peculiar charm of their own.

Cruising in a small boat of the type of the *Mermerus* is an entirely different sort of game from any other form of boating. It is cruising, but cruising with a lot of actual sailing under varying conditions. It has often been said that the converted racing boat makes an unsatisfactory cruiser. Our experience has proved that, in the realm of the small boat, an ex-racer may be an ideal cruiser for two people. Her very simplicity of rig, accommodations and handling, combined with her exhilarating performance, have convinced us that she is little short of perfect for our particular purpose.

Making Australian Yachting History

By A. F. ALBERT



Copyright, Sydney Morning Herald

"Norn" crossing the finish line in the final race for the Sayonara Cup, won by "Vanessa," the challenger

THE Sayonara Cup is to Australian yachtsmen what the America's Cup is to the United States and other countries that have taken an active part in the world's greatest yachting event.

In Australia the Sayonara Cup is quite an historic trophy, having been first competed for in 1904. Up to that time yachting was but an infant sport, with few, or no interstate contests. Early in the year 1904, Mr. Alfred Gollin, a keen Victorian yachtsman, issued an open challenge to the State of New South Wales to race its best boat against his *Sayonara*. The Royal Sydney Yacht Squadron and the Prince Alfred Yacht Club (the two principal New South Wales organizations) formed a joint committee, accepted the challenge, and provided a trophy. They also nominated Mr. H. Binnie's *Bona* as defender. The *Sayonara* was sailed from Melbourne to Sydney, a distance of some 600 nautical miles of very treacherous coastline, and in a series of three matches, held outside Sydney Heads, won the trophy. The following month — in order to promote a series of yachting contests between the states of New South Wales and Victoria — Mr. Gollin presented the trophy as a perpetual challenge cup, to be known as the Sayonara Challenge Cup, and had a deed of gift drawn up similar to that for the America's Cup. One of the points of similarity is that the challenging yacht must always sail to the port of the defending yacht on her own bottom. The deed also suggested that the successful yacht must win two out of a series of three races, but this condition could be altered by agreement between the two states.

In 1907 Mr. C. T. Brockhoff, a prominent New South Wales yachtsman, challenged with his *Rawhiti*. *Sayonara* defended on behalf of Victoria, and again won. Two years elapsed, and in 1909 Mr. Charles Lloyd Jones challenged with his *Thelma*, and *Sayonara* — which, during the time since the previous contest, had changed hands — was once more successful for Victoria, as she was again the following year against the challenger, *Culwulla III*. But there was a dispute over the rating in this contest, and an appeal was made to the Y. R. A. which was decided in favor of *Culwulla*. By virtue of this decision, the Sayonara Cup came to Sydney for the first time.

From 1910 until 1914 there were no Victorian yachtsmen enterprising enough to issue a challenge, and from then on until the end of the world war, yachting activities in Australia were entirely suspended. After the war there was a great deal of talk about Victoria challenging, but nothing materialized until 1927, when Victoria issued a challenge in behalf of Mr. J. White's *Acrospire III*.

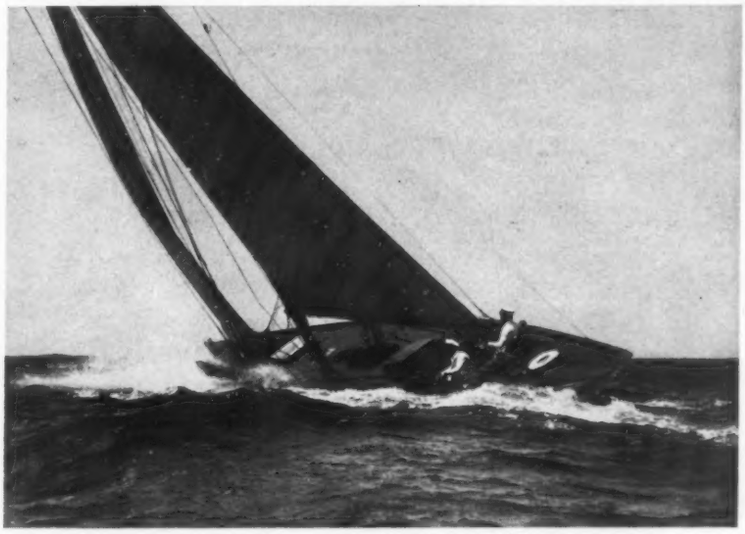
New South Wales having no suitable yacht, the only thing to do was to build or import one. Building was out of the question, due to the short time remaining before the contests were to be held, so the writer brought out *Norn*, an International Eight-Metre craft, from England, where she had just completed a successful season. *Norn* was built in Norway in 1924, from designs by J. Anker. *Acrospire* rated at 8.9 metres, and, therefore, had to give *Norn* a considerable time allowance. The latter won both races, partly with the help of her time allowance.

Due to the unsatisfactory nature of that contest, the Victorians requested that, in future, the best three out of five races should decide the victor. This was agreed to, and the following year Victoria challenged again, naming Mr. L. Randerson's *Eun-na-mara*. This yacht was the old *Culwulla III*, which had been successful in winning the cup for New South Wales for the first time in 1910, and which had since gone to Victorian waters. As stiff opposition was expected on this occasion, a prominent New South Wales yachtsman, Mr. P. S. Arnott, had a new boat built to the Eight-Metre International Class, from designs by Fife. This yacht was named *Vanessa*, and in elimination races between *Vanessa* and *Norn*, the former — partly due to *Norn's* very bad weather helm — won easily, and was chosen to defend the cup, which she did in three straight races.

In the two following matches *Vanessa* also successfully defended the trophy, winning without much difficulty against a new yacht, *Acrospire IV*. She was then sold to J. A. Linacre, of Victoria, in 1931, who took her to Melbourne and challenged with her for a race in 1932. Thus

New South Wales was faced this year with what seemed an impossible task. When in Sydney, *Vanessa* had been the fastest yacht, *Norn* being the only other craft that had ever given her any opposition. The latter, therefore, was selected as the defender, but it was apparent that unless we could materially improve *Norn* she would hardly give *Vanessa* a race for it.

When in Norway, during 1930, I had a consultation with Johan Anker, with a view to eliminating *Norn's* weather helm. He suggested certain slight structural alterations, such as straightening up the rudder post, etc. These alterations, which also included stepping the mast 15 inches further forward, had been carried out, as



"Norn" is an International "Eight," from designs by J. Anker

well as a slight reduction in sail area and other alterations to the sail plan. We also increased the ballast by some 30 cwt. In spite of the reduction in sail area, the added ballast so increased *Norn's* waterline measurement that her rating was brought from 8 metres to 8.3 metres. According to the international speed table, therefore, *Norn* had to give *Vanessa* — which rated at 8.1 metres — a time allowance of 5.1 seconds per nautical mile. This amounted to 1 minute, 42 seconds over the 20-mile course, and 1 minute, 47 seconds over the 21-mile course.

The alterations to *Norn* entirely eliminated the weather helm, and it was felt that she would now prove a more formidable rival to *Vanessa*, in spite of the handicap incurred by the increased rating.

The match proved to be a great tussle, and *Vanessa* and *Norn* put up a fight such as has never been equaled in match racing in Australia. As is often the case, the critics were confounded, for, while expecting just the opposite from the two yachts, *Norn* showed her superiority in medium to heavy weather, while *Vanessa* stood out in the light airs.

Vanessa, after sailing 'round from Victoria, arrived in Sydney about two weeks before the races were due to start. These contests are always held during January, the month in which the weather is usually at its best and the winds most reliable. During the whole series the wind inclined to the light side, though there were days when it freshened a little. There was no very bad weather, either in the way of wind or sea. All the contests were held on the ocean, outside Sydney Heads, as the deed of gift stipulates that the races shall be sailed in waters clear of all headlands.

The first race of this year's match was sailed on January 19th. The weather was perfect for yacht racing, there being a nice whole-sail breeze, blowing about 15 miles at the start, and later increasing to some 25 miles' strength, with a moderate to lumpy sea. *Norn* got the better of the start, being slightly ahead of *Vanessa*, and to windward of her. The moderate breeze and somewhat confused sea seemed to suit *Norn*, and it was soon apparent that she was sailing the faster of the two.

At the end of an hour of windward work (the course was windward and leeward), *Norn* had a clear lead of over three minutes, which she had increased to 4 minutes and 12 seconds as the boats rounded the windward mark. Contrary to expectations, the Victorian challenger gained 27 seconds on the run, some of this being due, no doubt, to her bringing up a freshening breeze. *Norn* crossed the finish line 3 minutes and 45 seconds ahead, and after allowing *Vanessa* 1 minute and 42 seconds, won by 2 minutes and 3 seconds.

The second race was sailed two days later, on January 21st, in a light wind from east-southeast, with a smooth surface sea on top of a light swell. It was a triangular affair of seven miles to a side, the first leg being to windward. *Norn* was on *Vanessa's* weather bow at the start and soon worked out ahead, *Vanessa* sailing very free to break through the Sydney yacht's lee. Sailing faster, *Vanessa* was able to work out a lead after an hour's sailing. Looking for flukes, *Norn* tried to break away, but Skipper Linacre, of *Vanessa*, kept her well covered and was 3 minutes, 24 seconds ahead at the windward mark.

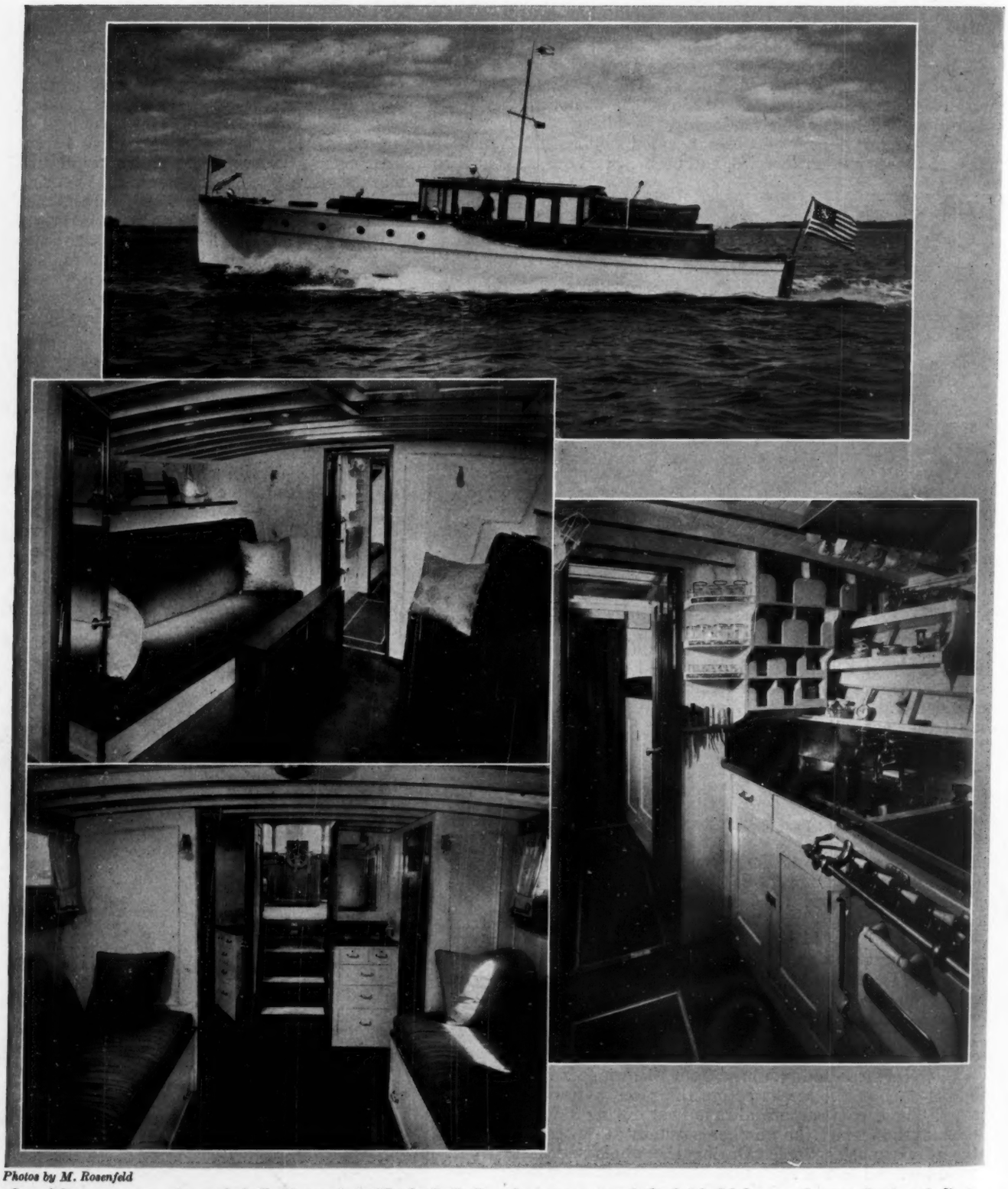
On the broad reach to the next mark *Norn* set a double spinnaker and settled down to

(Continued on page 92)

Photos by S. J. Hood, Sydney

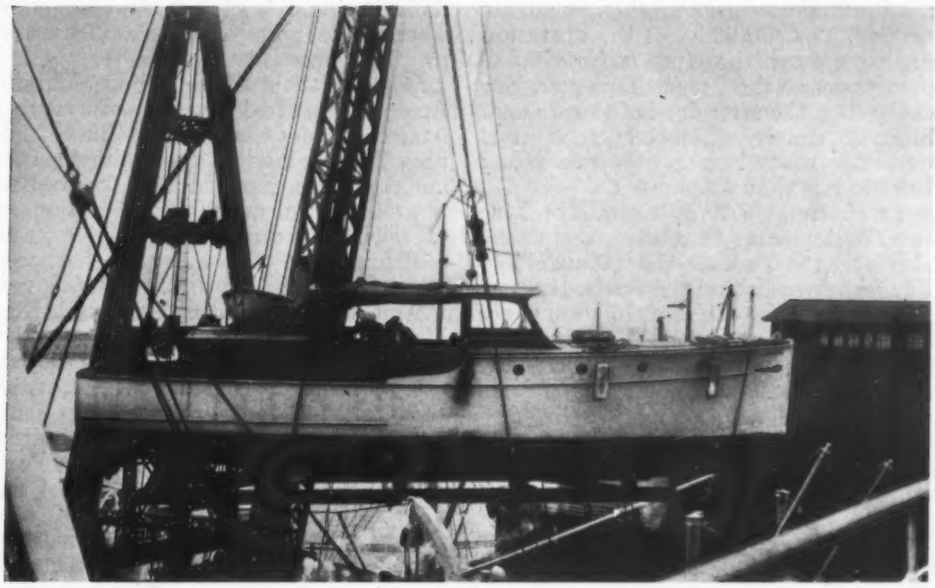
"Vanessa," the successful challenger for Victoria in this year's contest. She was designed by Fife

"Lucky Strike"—A 55-Foot Fast Cruiser



Photos by M. Rosenfeld

One of the new power cruisers to be built this year is the "Lucky Strike," which went into commission for the season last month. Owned by DeCourcy L. Hard, of New York, she was designed and built by the Consolidated Shipbuilding Co., of Morris Heights. Pleasing to the eye, she is very attractively finished below, as the reproductions indicate. The large deckhouse adds much to the comfort, either underway or at anchor. Two Speedway motors furnish the power and drive her at a top speed of 24½ miles an hour



Loading the "Vacuum" aboard the steamer "Paris"

Through France on an A. C. F. Forty-Footer

From the North to the South of France by Canal and River

By HERRICK GOOCH

THE idea of buying a boat and taking it overseas for a long European cruise came suddenly on a rainy evening, rather like an attack of influenza. As far as I can remember it had something to do with the coast of Spain and was not very practical.

Someone who had dropped in that evening knew somebody else who had made a trip to the coast of Spain, and another friend said that he knew a great deal about small boats. We knew very little about small boats and less about Spain. We arranged a cocktail party, including in it the man who had made the trip and the boat expert, and some three evenings later these worthy and well-informed gentlemen told us at great length and with careful regard to detail all the things that were necessary to know before buying a boat and planning a foreign cruise. We listened with attention and respect. Later that evening my wife told me that I had better stick to things I understood and buy a second-hand car.

There the matter dropped for a time until one day I happened to remember Smitty. I recalled that Smitty had told me some years before of a trip he had made through the French canals. It then occurred to me rather forcibly that if Smitty could go through the French canals, anyone could.

The result of this little jaunt on the part of my memory was that I got hold of Bill and together we went to see our friend the boat expert. Three hours later we left our man of knowledge, tore up a list of books he had given us to read, and acting against everyone's advice went to a large company and bought a boat — a 40-foot, twin-screw double cabin cruiser. In her, amongst other things, was a gigantic ice box. I asked the salesman if this could be removed and a smaller one put in its place. It was a dreadful mistake. A look of pain and horror came over his face, and from his astonished remarks I realized that the ice boxes installed in these boats were the pride of the company. I murmured something rather apologetically about there being little ice in France and plenty of booze, and then let the matter drop. But it was too late. I had lost caste. The salesman knew nothing about France and cared less, but in his estimation "regular fellows" wanted big ice boxes to hold large quantities of liquid refreshment for numerous friends; therefore I must be a "piker." However, putting his personal feelings aside, he sold us the boat and guaranteed delivery a month later.

A deep lock on the Bourgoyne Canal

The next step, that of arranging for shipment to France, was amazingly simple. The French Line told us that not only could they carry our little craft over on either the *Paris* or the *Ile de France* but that they would also make all arrangements with the French government for our Triptic and permits of circulation and passage through canals.

We sailed for France in the middle of September on the *Paris*.

The loading of the *Vacuum* was accomplished five or six hours before we sailed. The simplicity of the operation was amazing. She came down the Hudson from Peekskill under her own power to the French Line pier. Her cradle had been placed on the after deck of the steamer that morning. She was met by a floating crane, steel cables were slipped underneath her, and she was swung aboard the big liner in less than 45 minutes.

We docked at Le Havre at 9:30 at night. The Line had arranged for a floating crane to meet us and three-quarters of an hour later the *Vacuum* was tied up alongside the dock, fifty feet or so behind the *Paris*. It was a curious sight, in the glare of the dock flood lights, to see our little white ship nestling under the towering stern of the big liner. It looked as if the *Paris* had laid a tiny egg of which she was quite ashamed and which she had no intention of hatching.

Before leaving home I had telegraphed to a garage in Dinard where I had once kept a car to have a mechanic meet us when we landed. He was on the dock when we

The entrance to the tunnel at Pouilly where the canal has been cut through a mountain

went ashore, which cost Bill a thousand francs, as he had bet that sum that the mechanic would never show up. We let him (his name, by the way, was Jack) play watch dog on the *Vacuum* while we spent the night on the now deserted steamer.

Early the next morning the *Vacuum's* full crew, my wife, Bill, Jack and I, stood by and waited for the gasoline truck that was to fill us up and for the pilot who was to run us up the Seine as far as a little town about halfway to Rouen. We finally got underway about ten. To my immense surprise both motors worked perfectly, and Bill won his thousand francs back. By noon we had made about 35 miles, we had let the pilot off, and run out of cigarettes.

Below Rouen the Seine is quite wide, quite uninteresting, and on this particular day bad weather made our first run in France wet and depressing. There is no difficulty in navigating as there is plenty of water everywhere. The pilot, though a pleasant individual, was totally unnecessary.

We arrived at Rouen about four in the afternoon. Arrangements had been made for us to tie up to a small float owned by the Touring Club of France. As we approached the landing a whiskered gentleman in overalls and a small boy pulled us in with a boat hook. Half an hour later we received a visitation from the French officials. Their object was to look over our papers and to see that the *Vacuum* carried the necessary lights, life preservers, etc. This inspection is given to vessels that intend to cruise inland waters at Rouen, and not at Havre, as we had previously supposed. They were very pleasant and much interested in the boat.

The *Vacuum*, as I have already said, is a 40-footer, technically 39 feet 10 inches. Her main deck is amidships where the wheel and controls are located, the two motors being directly underneath. Forward of this is a cabin fitted with a tiny galley and toilet room. Aft is another cabin, and still farther aft a small open deck. There are three comfortable bunks aboard, and there are also three little shelves which are jestingly called bunks.

We stayed in Rouen for two days, buying what provisions we thought necessary. About three o'clock in the afternoon of the third day we got underway with the small town of Les Andelys as our objective. We were forced to run very slowly in order to prevent our wash from upsetting the small boats tied to the banks of the river. Judging by the expression on the faces of several fishermen we were not popular with this type of sportsman. A little later in the afternoon we came to our first lock. As is always the case between Rouen and Paris, it was a double-barreled affair, one side for yachts, tugs alone, or with not more than one barge in tow; the other side was for larger convoys or strings of barges. We stood off in midstream until the gates opened and then went slowly in, throwing our lines up to the lock

The "Vacuum" on the climb towards Paris

keeper who made them fast. The lock keepers are usually very pleasant and helpful and it is understood that pleasure boats will give them small tips.

The inlet of water in French locks is sometimes sudden and extremely swift. We were fortunate in that we had supplied ourselves with large rope bumpers in Rouen that took up the shock as we were tossed about against the stone wall. The weather had changed and was now something closely resembling Indian summer at home. To add to the natural beauties of the Seine in this section are many lovely chateaux with beautifully kept gardens and parks. We passed the ruined castle of Richard le Diable, whose history I firmly resolve to look up every time I think of it.

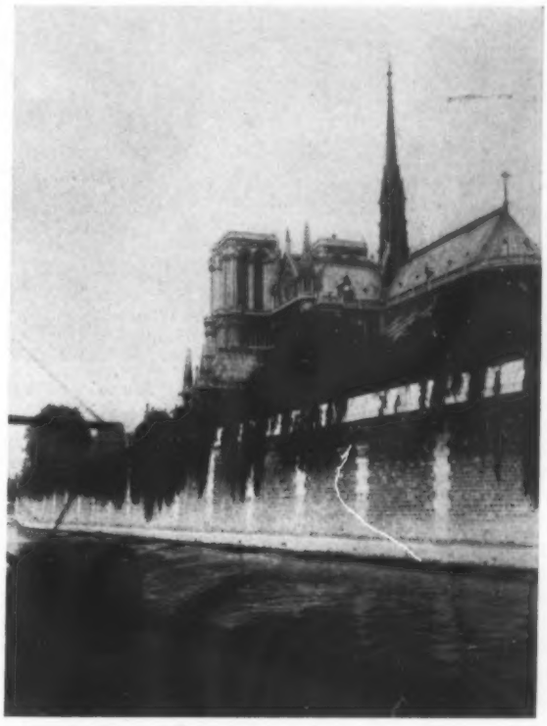
Another lock, and a longer wait this time, made it dark when we arrived at Les Andelys, and here we very nearly brought the cruise to an abrupt halt. As we understood it, small boats in France carry a red light at their mastheads while at anchor. Across the river from the little town we saw such a light and taking it to be a boat in what was the local anchorage, we approached, fortunately very slowly. As we got nearer our searchlight picked the vague outlines of a small white sailing dory. At the precise moment that I felt our bow scrape on something I saw that the dory not only carried a red light but also a crudely painted sign reading DANGER. It was Les Andelys' idea of a lightship for a sand bar.

The sound of our motors going astern brought out a little man in a one-lung motor boat who showed us a spot near the town where we could anchor. He was very pleasant, but a bad spot-picker, as about three in the morning our anchor dragged and we drifted against the bank. In disgust, we tied up to a tree and let it go at that. Les Andelys was one of the prettiest places we discovered between Havre and Cannes. It lies along the bank of the river in the shadow of the Chateau Giard. Due to the many tourists that come to see the chateau, there is a choice of several excellent small hotels where one may dine extremely well.

At Rouen, where the "Vacuum" was provisioned

The next morning we were faced with the problem of finding gasoline and, hardest of all, getting it aboard. The local garageman told us that the best he could do would be to deliver 90 gallons to the river bank in one-gallon cans. He made several trips with a hand cart, emptying the cans, one by one, into the tanks.

The afternoon was well advanced before we shoved off with the intention of getting to Mantes in time for dinner. We had a very pleasant run, passing through three locks, and arrived at about seven in the evening with no idea of where to tie up for the night. After some hunting about we made fast to a species of houseboat used as a permanent dwelling by a French family, which kindly played watch dog to the boat while all hands went ashore to have dinner and a look at the town. By this time we had become quite fond of our sailor, Jack, who came from Brittany, and who, we soon discovered, was slightly contemptuous of other parts of France.



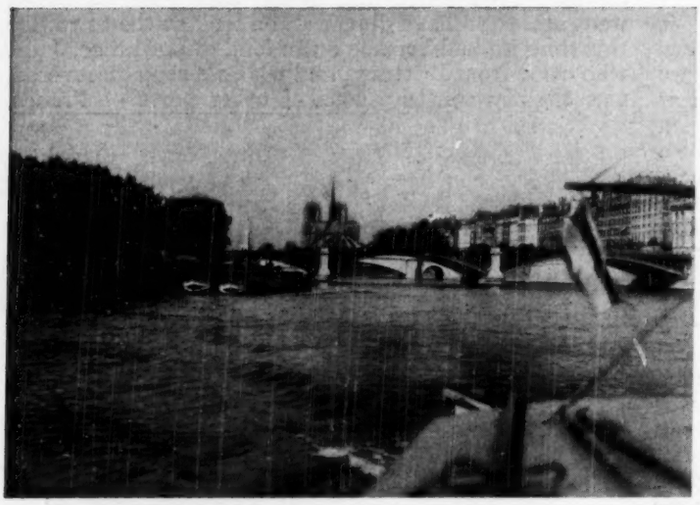
Notre Dame as seen from the deck of the "Vacuum." High stone quays have been built along the Seine so that but little of the city is visible

Practice had helped him, and by now he knew how to throw a rope.

Planning where you will get for the night on a cruise of this kind is almost impossible as there is no way of knowing how long it will take to get through locks, and how far one can get during daylight. There is always the possibility of being indefinitely held up by traffic ahead. There may be, and probably are, laws governing right-of-way which, if enforced, would undoubtedly give commercial traffic precedence over pleasure boats. However, as far as our experience went, it was always a question of first come, first served. The barges in use on the Seine are of two varieties, generally speaking, the Peniche, or old wooden type, with the huge rudder, governed by a long tiller; and the Challon, which is anything from the old type motorized to a very up-to-date steel boat equipped with submerged rudder, modern steering wheel, electric light and the latest type

of crude oil motors. The latter retain, however, the general lines of the old barges.

On the men who run these boats we relied largely for our information. They are as a class pleasant fellows who seem to lead a very domestic and comfortable existence aboard their floating homes. My wife quickly discovered a way of making friends with them. It is often convenient to tie up to their barges in locks while waiting for lock gates to open. At such times she would give candy to the small children who timidly came to look us over. They would immediately run to their mothers and show them what they had received. By the time Father had accepted an American cigarette the whole family regarded us as friends and neighbors. We used up a great deal of candy; there is no apparent race suicide on the waterways of France.



The Seine widens as Paris is left behind

That night we arrived at Maison Lafitte. We were now getting very close to Paris. The weather had suddenly changed during the afternoon and by the time we tied up to a small disused pier for the night it had turned cold and rainy. The run from Maison Lafitte to Paris is not particularly interesting. Due to the fact that at the time we did not know the regulations that cover small boats stopping at the quays in the center of Paris, we decided to anchor at Longchamps, about half a mile from the famous race course. We subsequently discovered that we could have gone alongside the quay just below the Place de la Concorde had we but taken the trouble to get permission from the river authorities.

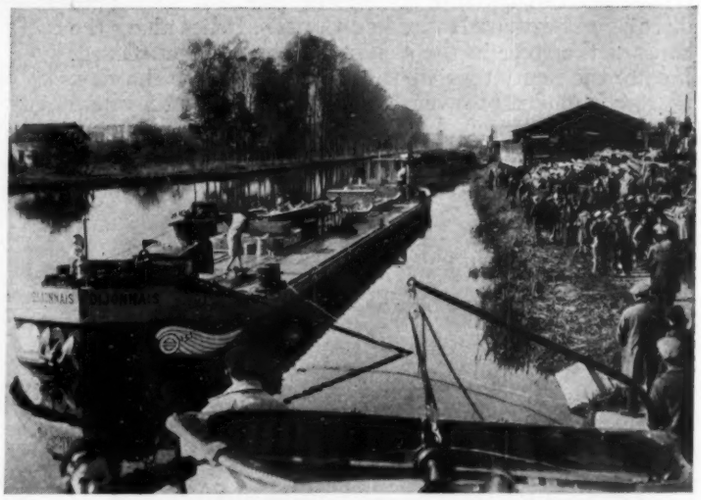
Thus we had finished, perhaps a little haphazardly, the first leg of our run from Havre to Cannes. Our distance had been a little under 400 kilometers. Leaving Jack aboard with enough cleaning and brass polishing to keep him busy for a few days, we moved into a hotel in town.

After almost a week in the capital we left early one sunny morning and sailed our little boat through Paris, bound for the Mediterranean. The Seine as it flows through the city is quite narrow but there was surprisingly little traffic now that the coming of winter had suspended the small omnibus steamers that in warmer months scurry up and down the river through Paris and its suburbs. A "fish-eye" view of the town gives one a curious impression that the French capital has been deserted. Due to the Seine's habit of overflowing at inconvenient moments, high stone quays have been built along its sides so that in the heart of the city one sees neither streets, people nor traffic. Water level range of vision is very disappointing, taking in only the upper stories of buildings, the spires of churches, and the domes of monuments.

Beyond Notre Dame the river widens considerably and we increased our speed. The weather had staged a return to summer, but knowing France as we did, we realized that this could not last and, thankful for what the present brought, we hurried on, doing our best to get south as quickly as possible. Night caught us still underway with only a vague idea that the town of Melun must be somewhere ahead. Its exact location was brought home to us rather forcibly when in the darkness we missed the lock that marks the outskirts of the town and very nearly climbed the barrage, or dam, that holds the river at the proper level. We spent the night fast to a rather flimsy pier at the entrance of the lock.

Early morning found us up, and after good luck at two locks we arrived at the delightful little town of Samois in time for a late lunch. Samois is considered something of a beauty spot and has the advantage of being conveniently near Paris for automobile parties. There are two or three very attractive little hotels that stand in their own grounds facing the water. The most pretentious of these can charge pretty stiff prices.

Alain Gerbault arrives at Brienon. His yacht is to be seen tied to the petrol barge



During the afternoon we filled with gas and water. Taking gasoline aboard here was less complicated as the local garage rolled it down in 40-gallon drums and pumped it aboard with the aid of a portable hand pump. The water was much more of a nuisance. As in most small French towns, Samois had two water supplies. The drinking water, *eau potable*, was taken from separate pumps, the nearest of which was about 40 yards up the river. By the time we had refueled it was too late to go farther that day, but we made up for the delay by starting the next morning at seven.

From Samois to La Roche was, I think, the loveliest part of the trip; probably the weather had a good deal to do with this belief. The summer, which had been very bad in France, compensated to some degree by going

(*Continued on page 94*)

Photos by C. J. Lewis

An early run. Sails at 10°, luffs closed and after guys rove through quarter blocks to tiller. The port spinnaker is bringing her "on course," using about 2° of helm

Captain Waller's Twin Spinnakers

A Development

By FREDERIC A. FENGER

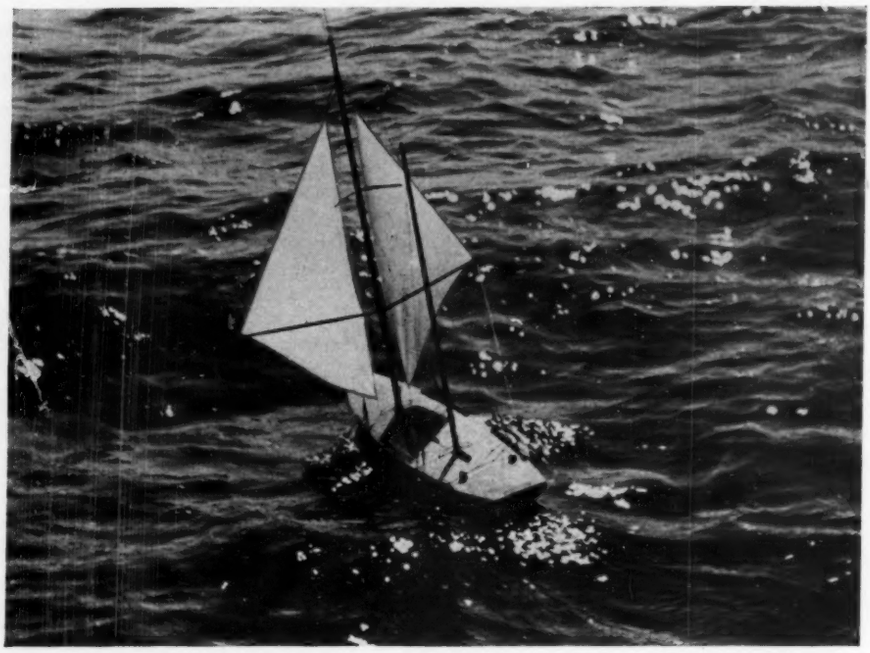
EARLY in the summer of 1930, Captain Otway Waller set sail in his six-ton yawl *Imogen* from the bottom of his garden at Banagher on the river Shannon, near the heart of Ireland, for Las Palmas, single-handed. Naturally there is something rather apart in going foreign from one's own potato patch, but what makes this voyage of especial interest to the offshore man is that Captain Waller employed a device of his own invention which makes a strong bid to solve the vexing problem of the squaresail as used on small fore-and-aft rigged cruisers by removing that much be-argued cloth of contention altogether and replacing it with an easily handled chafeless rig under which his little Albert Strange yawl was made to run for days on end — when the wind was agreeable to the course — without attendance at the helm.

The arrangement, as described in the October number of the *Yachting Monthly* of the same year, is simple enough. There are two spinnakers — comparatively small though ample for offshore work in strong breezes — set up on either side and slightly forward of the center of the mainmast with Wykeham-Martin's furling gear. They are almost equilateral, being rather short along the hoists and having their clews cut somewhat high, so that when they are set with their tacks well clear of the deck, not only is there good visibility over the bows, but the booms are steeved above the danger of being rolled into the tops of the waves. Instead of being guyed square to the vessel, however, the booms are eased forward to an angle of 10° from athwartships. The after guys become sheets and are rove through quarter blocks and thence to the tiller. The forward guys are left slack enough to allow for a certain amount of play for the sheets through the quarter blocks and yet to act as preventers in keeping the booms from fetching against the shrouds in case the spinnakers are backwinded. (See sketch No. I.)

When directly before the wind, then, there is an equal amount of tension on each sheet and the tiller will be held amidships. As the hull sheers to port, for instance, the angle of the starboard spinnaker with the wind becomes greater and hence it begins to spill the wind, thus lessening the pull on its sheet, while the port or weather spinnaker is brought more normal to the wind and the pull on its sheet is increased. Thus the weather spinnaker draws the tiller over to port, swinging the yacht's head to starboard and so back on its course again. This is the principle of the rig as set forth in the article, which goes on to say that, "In this way the yacht runs before the wind, yawing slightly first to one side and then to the other."

Now it happened that in the Fall of 1930 I was casting about for some practical method of getting my "Dhow" model* directly before the wind and keeping her there for adequate stretches and in various strengths of wind and conditions of sea, in order to study her performance while running. As the usual spinnaker method for model yachts would involve complicated steering gear which would be of no other use to me and which would clutter up an otherwise rather clear deck, a squaresail was in the making, though I hardly believed it would serve my purpose. Then, thanks to the article on Captain Waller's rig, the solution of my problem came directly to hand.

The idea is so simple that one wonders why it was not thought of long ago, and I recalled how in my sailing canoe days I had come into the habit — when running wing and wing — of easing the main and mizzen sheets still farther till the planes of the sails were at about 15° forward of athwartships. The wind, instead of spilling more or less uniformly from all the edges of the sails, flowed mainly off the leaches. Thus there could be no possible interference with the wind flow into the mainsail by eddies from the luff of the mizzen. I did not then think of it in exactly these terms; I only knew that I was losing no speed and that the canoe was holding her course far better than before. The steering problem was simplified — none of my canoes had rudders, by the way, but were steered by the main sheet — for now, with the sheets properly belayed, all that was necessary to hold the course was to keep the canoe on an even keel, no matter how strong the wind or how high the seas. There is a lesson here, showing that a sea, in itself, shouldering a hull on one of her quarters has less to do with her sheering than the actual distortion of her displacement form *after* she has begun to heel. In other words, if the initial impact of the sea striking foul on one quarter is immediately counteracted by forcibly keeping the hull upright as in the canoe, or by quick rudder action as with the larger hull when a good helmsman is in charge, or better yet by leading the bow of the vessel back upon the course through direct sail action at a point where it is most effective — through the use of Captain Waller's twin spinnakers — the tendency to continue the sheer is killed before the action is fairly started.



Later trials, with sails at 23°, luffs open, and guys belayed. No tiller, rudder trailing idle. Boat has just been launched, and starboard spinnaker is bringing her "on course," port spinnaker partly aback

In the above statement it will be noted that in mentioning the third corrective against yawing, I spoke of sail action as though it were entirely independent of rudder action, and so I meant it, as it is from this premise that I was eventually to depart somewhat from Captain Waller's method. For it came to me almost immediately that the twin spinnakers should do their stuff without the use of the tiller. That they ought to hold the vessel on her course with sheets and guys belayed — with fair accuracy, of course — the two sails being held at equal angles with the hull.

To begin with, I designed the sails with their clews nearly a third the hoist length above their tacks. This was to allow for excessive rolling, in case of need, and also to carry on my trials with the shape of sail I would use in actual practice, one in which the strains are fairly distributed throughout the entire area. Otherwise the rig was in effect the same as that used by Captain Waller.

The first spinnaker runs were made in November of 1930, at the end of a long afternoon of various other trials, after the wind had fallen almost calm and the sea become oily smooth. With sheets and guys fixed to hold the spinnakers at 10° forward, and the rudder disconnected so as to trail idle, the model sailed out from under the lee of the launch — all these trials were held several miles offshore in Cape Cod Bay — and she made her way directly down wind, with no perceptible deviation, for perhaps a hundred yards. Then she slowly turned to port till the wind was brought abeam, on which course she continued indefinitely and with no apparent change. The port or weather spinnaker was doing all the work while the starboard spinnaker was either atremble or partly aback. This action — holding a course with the wind abeam while the center of effort of the one pulling sail was well forward of center of the lateral plane — was something of a puzzler, at the time, and led to a lengthy investigation which need not be entered into here. The model was now taken out of the water and the after guys rigged as sheets, in the manner of *Imogen*, rendering through quarter blocks to a tiller which had a rubber band in easy tension to bring the helm amidships when the pull on the sheets was equalized. The forward guys were eased off to allow for the play of the sheets, and the model again put overboard. Needless to say, she held her course down wind almost as well as though she had been steered by hand, the helm being altered but a degree or two on either side. The conditions had been favorable, and so I put down the results as more or less inconclusive.

During subsequent trials, held throughout the summer of 1931, it was found that no matter what the contour of the hull might be — the original reverse slope of the keel could be altered to a normal drag as in the orthodox hull, while the *CLP* could be shifted through the wide range of these extreme positions by means of small fins of various sizes and shapes — a certain amount of helm action was found necessary, no matter how easy the weather conditions might be, in order to sail the model directly down wind. Various sizes and shapes of rudder were used, yet with a moderate area and a relatively small amount of helm, she would hold her course with only a slight variation on either side, regardless of wind strength or the relative size of the seas.

To a degree, then, the outcome of the spinnaker runs was fairly satisfactory. So far as hull action was concerned, I had gotten what I was after. These runs became secondary to runs on other courses, and as one's mind becomes peculiarly single-tracked while doing experimental work of this nature, I dismissed, for a time, the thought that very likely the spinnakers themselves were not functioning to their best advantage. Else the model would perform according to my premise. She would not only hold her course, but she would *tend* to hold it with no aid from the rudder.

It was not until the middle of September that I returned to the spinnakers again, and then, after sitting down with paper and pencil, the quite obvious solution came very quickly. At least, any racing man giving the rig a moment of thought would immediately suggest spreading the sails apart in order to allow a flow of wind between them, thus sweeping the cone of dead air from the vertical trough that lay just ahead of the mast. It next occurred to me to question the angle at which the sails were trimmed forward of athwartships and I remembered that with my canoes I had allowed at least 15° and possibly more. In such a circumstance, Dr. Curry is an excellent authority to consult, if not in person, at least in his book, and it soon became evident that the more effective angle was in the neighborhood of 23°. Whether Dr. Curry will concur in this finding for this particular case, is another question. But there can be no question as to the improvement in the behavior of the rig after these two very simple changes were made. (See sketch No. II.)

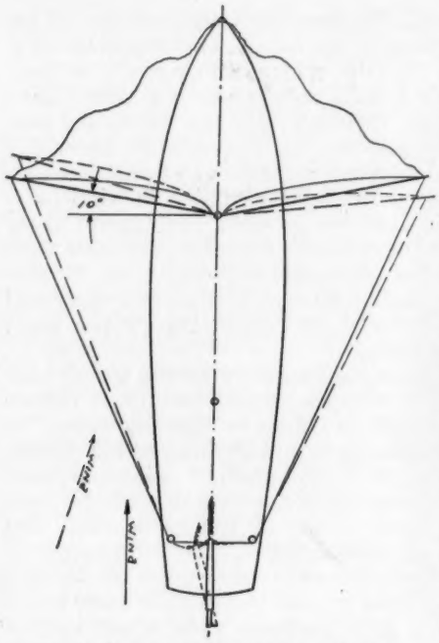
With the spinnakers now spread so that their luffs (ordinarily the leaches, but in these sails the luffs, as the wind enters along their edges) were well clear of the mast on either side, and their booms guyed at 23° forward of athwartships while the rudder was allowed to trail idle, the model began to turn in her best performances down wind. Her average courses were very true and her deviation was apparently less than in the earlier trials when the luffs were closed, the sails set at 10° and the tiller used. If there was now any loss through the slight additional distance traveled over that of an absolutely hand steered course, it was probably very largely made up by the additional freedom of hull movement, together with an almost total absence of rudder drag. Under this new setting, the model was sailed offshore in winds ranging from light to fresh, and later on a large inland pond surrounded by woods which not only caused a considerable variation in wind pressures but in their direction as well. Throughout these pond trials it became evident that when the sails were caught at odd angles the tendency to settle on the new course was far stronger than that of making a sheer and rounding to. She moved as though led by the nose, sailing practically upright.

During one offshore run in a very strong breeze that built up short steep seas, the squalls became so vicious that when they struck — a little on one side or on the other — the lee spinnaker would be dragged half under, acting as a brake, while the weather spinnaker, now turned into a favoring couple, would depress her bow and cock up her stern till she all but pitch-poled. But she always righted herself, like a pelican coming up from a dive, and squared away once more till another extra heavy puff would put her through the same antics again. Here was a gale condition that would call for nothing short of bare poles aboard the man-sized craft. But when additional weight was attached to her keel — this model was purposely built in direct relation to the full-sized hull and *not* with the exaggerated lateral plane and extra loading usually followed in racing model practice to meet the disproportion of wind strength — her antics ceased immediately and she drove off before the same wind and sea as though she were running on tracks. Here was further support for the contention that it is the roll and the actual distortion of the displacement form that continues a yaw *after* it has been started through some variation of wind or inequality of sea.

Dead before it! Sails at 23°, luffs open, guys belayed, no tiller. Rudder trailing idle

From these trials it became evident that spreading the spinnakers apart not only increased their efficiency but, what was of more importance, it allowed a greater amount of interplay than had been in evidence before. Also, by increasing the angles to 23°, the action of the spinnakers was, in all likelihood, brought closer to Captain Waller's original idea than in the case of *Imogen*.

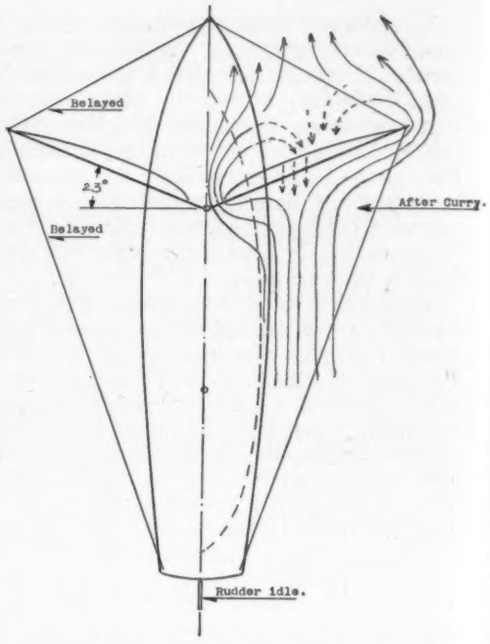
If 23° is the more correct angle, then with *Imogen*, and in the earlier model trials, we find that the lee spinnaker which should be lessening its pull on the sheet as it is turned farther away from the wind, actually gains in efficiency through the first 13° of its turning, while the vessel's course is being altered a little more than a point. And so, to a certain extent, this supposedly lame duck is actually *helping* the vessel to yaw up to this point, beyond which the sail rapidly begins to spill its wind while the weather spinnaker now takes hold and brings the tiller into action. Were it not for the fact that while the model is yawing the weather spinnaker is actually forced back against the wind, the added pull of the lee spinnaker sheet would bring the helm across the deck



Sketch No. I. "Imogen's" twin spinnaker rig. Luffs closed and booms at 10°

with it and so continue the turning till the wind was brought well on the quarter. However that may be, there can be no question but that the weather spinnaker very quickly gains mastery over the tiller and promptly brings the vessel back upon her course again.

When the spinnakers are set at 23°, however, immediately a sheer is started, the lee spinnaker loses efficiency rapidly while the weather spinnaker continues at very nearly full power, and so the corrective effect is already at work. Or so it would seem in theory. In the case of the model, the immediate additional leverage of the weather spinnaker around the effective *CLR* of the hull was enough to bring her back upon her course without the aid of the tiller. And had *Imogen's* spinnakers been spread apart — say about three feet — and had they been eased 13° more, to 23° forward of athwartships, it is very likely that she would have weaved even less from her course and it is not at all improbable that she would have done as well with the spinnakers guyed and the tiller left idle.

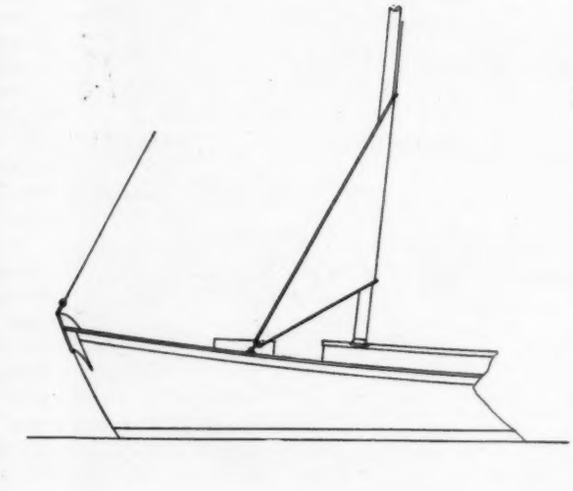


Sketch No. II. The "twin spinnaker" rig with luffs spaced apart and booms at 23°

Captain Waller states that the Wykeham-Martin gears proved entirely satisfactory, and in the smaller sizes this is no doubt the best way to handle the sails, either hauling them out by means of sheets which are independent of the after guys, or making one line function for both. He goes on to say that an improvement which would prevent fouling the main and headsail halliards would be to land the heads of the spinnaker gears on a small spreader above the hounds. (The *Imogen* carried no spreaders either on her main or mizzenmast.) This would, of course, be quite necessary when the sails are rigged to be spread apart. It might also be necessary to bring down the tack lines to a pair of inverted cranes fitted to the mast below the gooseneck band so that in the event of parting an after guy, the tack of the sail can follow the boom as it swings forward and so avoid breaking it on a taut luff line. The chances are that in actual practice the luffs would not be bowsed down so hard but that there would be sufficient give in case an after guy let go, especially if the tack lines were spotted well forward of the mast, thus affording additional clearance. By carrying the tacks well forward of the mast, more rake is given to the luffs and hence the spinnakers will have additional lift.

When handed, Captain Waller left his gear standing, the sails being furled in a neat roll on either side of the mast, and the booms steeved outboard like the "tangons" of a Brittany tunny boat.

At this point I want to make it clear that my enthusiasm for Captain Waller's invention, however it may or may not have been improved through my own findings, does not lead me to advocate his rig merely for its self-steering tendencies, desirable as they may seem. For I can readily conjure up certain offshore conditions and such types of craft in which there would be a distinct risk in going below and letting the rig take the watch. But there is little question in my mind that even under extreme conditions, in which the very smallest of storm spinnakers may have to be used, the business of steering will be made surprisingly easy — and that is what you want, under extreme conditions. For as soon as a sheer is started, there is that compensating influence of the weather spinnaker ever helping the man at the wheel or tiller. And while the rig, in so far as the single- or short-handed crew is concerned, is primarily suited to the mainmast of the yawl or ketch, or the foremast of the schooner, there is no reason why it should not be used by sloops or cutters, even though these latter, with masts much closer to their *CLR*'s, may have to be steered by hand.



Sketch No. III. Double running sail, for use when it's "blowing half a gale"

(Continued on page 84)

A photograph taken with the small Leica camera, using a yellow filter which brings out the clouds beautifully

Yachting With a Camera

+ + +

How to Use Your Still or Ciné Camera Afloat

+ + +

HALF the fun of yachting is in talking it over afterward and recalling, through the long winter months, the memories of past cruises or races. It is needless to say that the pleasures of such "on-shore yachting" are enhanced ten-fold by good photographs. But the yachtsman, as a rule, is a poor photographer, largely because he is apparently awed by the imagined intricacies of a good camera. This is an unfortunate complex when it is considered that the effective operation of a camera is far less involved than the handling of a yacht or the driving of an automobile. Furthermore, the yachtsman who tries photography with his seafaring is fortunate in having so much excellent equipment at his disposal. The purpose of this article is to aid the yachtsman in the use of this equipment and to interpret the technicalities of F 4.5, exposure speed, and focus into the simple *A B C* of common understanding. If the reader will give this article half an hour's thought we are hopeful that he may be repaid with the invaluable dividends of good photographs.

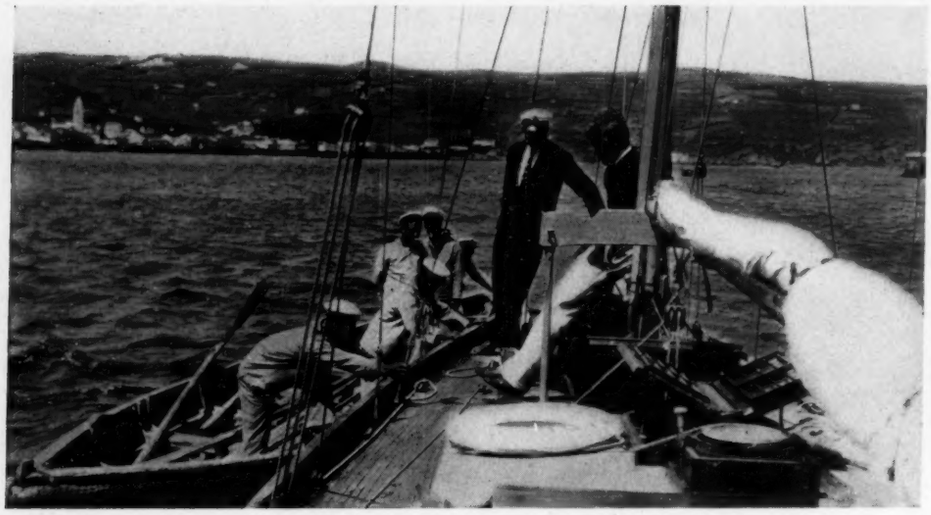
There are only three fundamental adjustments to be made on a camera. They are the diaphragm opening, the speed, and the focus. It is the proper coördination of these three elements that produce a good photograph, provided, of course, the camera is turned on a subject worth taking, a phase of photography which will be treated later in the article.

Diaphragm opening, with its scale readings of F 4.5, 5.6, 11, etc., is usually the most puzzling operation to the novice. Actually, it is nothing more than this: The lens of a camera may be likened to the human eye, or, for the purpose of clearer illustration, to the eye of a cat. Everyone has observed that in the evening, when there is very little light, pussy's pupil is wide open. Likewise, on a dark or rainy day when there is a small amount of light, the diaphragm or pupil of the camera must be wide open in order to record or see the object being photographed. That is, the diaphragm should be near the lowest reading on the F scale. Look into the lens and you will see the diaphragm iris open or close as you move the lever along the F scale. On some cameras the lowest F reading may be F 6, on others F 4.5, and an exceptionally fine lens may open as wide as F 2.5. If you attempt to take a picture on a dark day with the opening closed up to F 11 or more, your photograph will record as little as your eye can see in a dark cellar after you have been outdoors in the brilliant sunshine, which has caused the opening of the pupil to be very small. You see nothing in the cellar until your pupil automatically opens. Likewise, the camera will record nothing until its pupil or diaphragm is opened.

Having the opening too large is the cause for most of the poor photographs taken on the water. The effect may be best described by again considering the cat's eye. When pussy is out sunning herself on a brilliant day her pupils are mere slits, the opening (diaphragm opening) being very small. When you come out of a dark cellar where your pupil has been wide open in order to collect enough light to make an impression on the brain, you are temporarily blinded until the eye opening automatically becomes very small. The camera is blinded in the same way, particularly on the water where the light is so intense, when a picture is taken with the diaphragm opened up. The result is termed an overexposed negative. The film has been burned up by too much light. Pictures on the water in the brilliant summer sun, as a rule, should be taken with the diaphragm closed to the highest reading on the F scale.

Between the two extremes of light intensity mentioned above there are countless light intensities requiring a different diaphragm opening to correspond to each. But the opening does not have to be precisely correct to get a good picture because the so-called latitude of the film will adjust small differences in the developing. Therefore it is only necessary to set the opening approximately correct to get a reasonably good picture, and that approximation may be readily made after a glance at the existing light intensity. If it is dark or raining, open the diaphragm as wide as possible. If it is just a dull day, open the diaphragm about halfway. And so on up the scale as the light intensity increases. In short, consider how wide open your eye is under the existing light conditions, or if you prefer, look into the eye of a shipmate. You may even take pussy along for an exposure meter. Cats have been known to make excellent barometers at sea.

The second element to consider is speed, which in a sense goes hand in hand with the diaphragm opening.



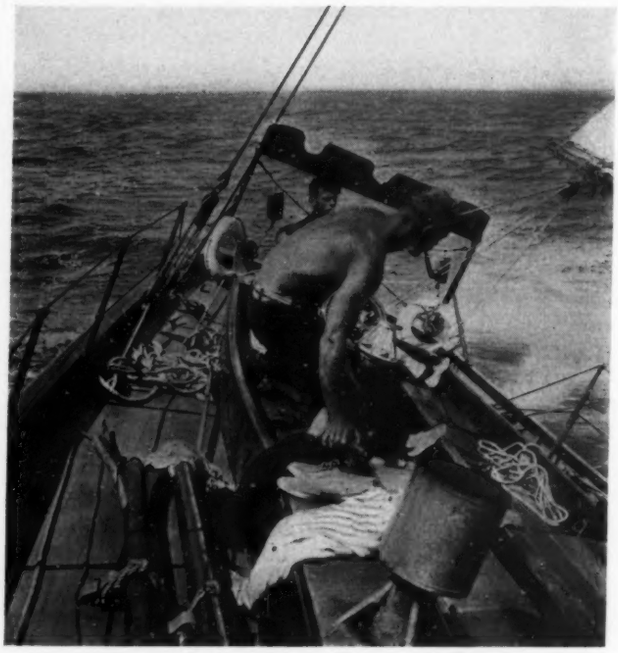
This clean cut photograph was taken with an Eastman postcard size roll film camera at a speed of 1/50 of a second and F 11 opening

That is, on a dull day the exposure or time of taking the picture needs to be longer in order to allow a sufficient quantity of light to be recorded on the negative. This is analogous to looking at an object in the dark. One must peer longer in order to gather a complete impression. On a brilliant day one quick glance will suffice to furnish a clear mental picture. However, as the majority of photographs taken on the water are of action scenes, the range of speed is limited and therefore simplified. In general, one-25th of a second is the slowest speed that should be used to stop action scenes. But with the diaphragm opened wide, good pictures can be taken on the dullest of days with the highly sensitive film sold so inexpensively. One-hundredth of a second is fast enough for all ordinary action pictures, although speeds up to one-500th of a second will be useful in photographing fast motor boats. A fast motor boat can, however, be photographed with a camera limited to a shutter speed of one-hundredth of a second by moving the camera with the boat as it passes by. This action blurs the background, but catches the desired object effectively. The application of this trick requires some practice. To sum up the speed element, use one-25th of a second on dull or rainy days, one-50th of a second for all ordinary purposes and one-hundredth of a second for very brilliant days, or for stopping action.

The third element, focus, is nothing more than setting your footage adjustment to correspond to the distance between the camera lens and the objective. On a Graflex or similar camera, with visual focusing through a ground glass, the adjustment for focus takes care of itself when you view the objective on the ground glass in correct focus. There are occasions when one desires to photograph a number of objects together which are at varying distances from the camera. This is readily taken care of by setting the camera at the average distance to the object or to its universal focus. This so-called universal focus is usually between 25 and 40 feet. On ciné cameras the universal focus is at 25 feet.

With the camera adjustments outlined we may consider briefly the subjects and scenes worthy of photographing. Close-ups are usually good but they can be made far better if an eye for artistic composition is applied. Don't take a photograph of the skipper standing on deck with nothing but a background of plain sky and water behind him. Catch him alongside the rigging, at the wheel, or in any position where there is a background of interest. Nine times out of ten distant pictures on the water are failures because most of the picture is filled with white sky and gray water, with a tiny boat lost in the middle. Unless the object you are photographing fills two-thirds of the view finder don't bother with it. This applies to motion pictures as well as stills. When taking a picture of a passing landscape or boat be sure to include some of the rigging or a mast of your own boat. This adds immensely to your photograph because it establishes the location of the picture and tells a more complete story. A picture taken of a picturesque island along the coast of Maine without showing a part of your own boat might just as well be purchased in the local postcard store. In short, don't stand at the rail nearest the object you want to photograph, but place yourself on the opposite rail so that some part of the boat appears at one side or in one corner of the photograph.

An enlargement from a small negative taken with the pocket Rolleiflex camera. The speed was 1/100 of a second and the opening at F 11



Yellow color filters are rarely used by amateurs because their use seems to suggest technical skill, but there is actually nothing complicated about them. If you have worn colored glasses on a brilliant day you have probably observed that the clouds are more beautiful and distinct and that the water has more color in it than can be seen with the naked eye. The yellow filter accomplishes the same result for the camera. The filter does not add the color but it reduces the strength of the ultra-violet rays which are so strong on a brilliant day that they hurt the eye and burn up the film before the other

colors can record. When the color filter is used the lens opening is increased just as your eyes are allowed to open wider when wearing the colored glasses. Color filters are needed especially in marine photography because the ultra-violet rays are so strong on the water and because there are so many beautiful cloud effects that can be photographed only with the use of filters.

The next point to consider is the type of camera to use. We are all familiar with the various types of Eastman folding Kodaks using roll film. They will take any photograph that the amateur desires. I think the post-card size is the most practical all around camera of this type for use afloat. Then there is the Graflex camera, one of the finest types of cameras ever invented. Because of its ruggedness and the rapidity with which it can be put into action, it makes a perfect camera for use on the water. It has the feature of high exposure speed for taking fast motor boats and sure focus with the ground glass view finder.

An increasingly popular camera for use on the water is the little Leica which takes thirty or more small negatives on one loading of a strip of motion picture film. The principal advantage of a small camera of this type is that it is extremely handy and can be carried everywhere in a small pocket. With it you can take a large number of negatives at a very low cost and then have only the interesting negatives enlarged. The Leica camera has a high exposure speed of one-500th of a second, and the wide lens opening of F 3.5. The Rolleiflex is another small and handy camera which produces excellent negatives that may be enlarged up to the most desirable size. And there is the long line of Zeiss cameras with their fine lenses or the Agfa cameras to choose from.

A Graflex photograph taken at 1/135 of a second with an F 8 opening and using a yellow cloud filter

Ciné cameras should eventually become a part of the gear of a yacht, because they can bring back the memories of past cruises as no other medium can. Yachting lends itself peculiarly to motion pictures because the sport is one of continual motion.

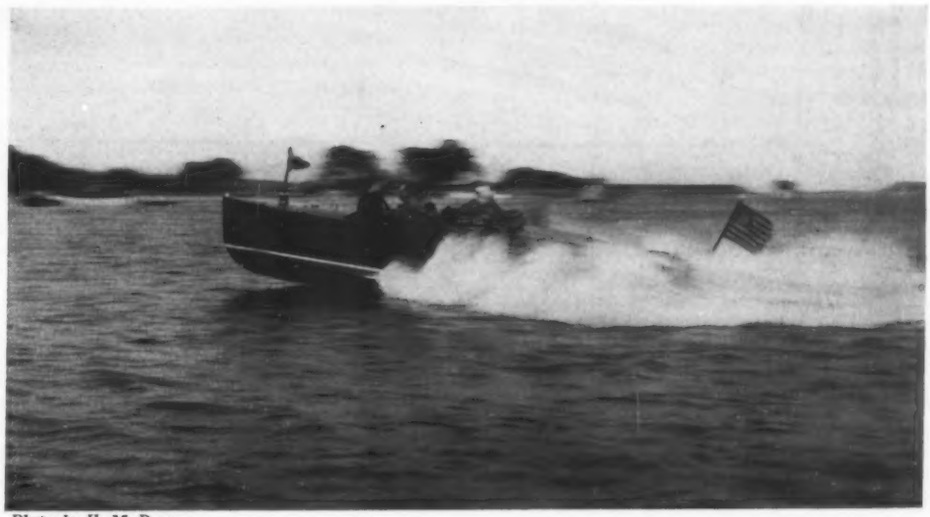
The adjustments on a ciné camera are fundamentally the same as those outlined for still cameras, but simpler because the speed of exposure on a ciné camera is fixed. So all you need to do is adjust the diaphragm opening correctly and set the lens for the proper distance. However, the ciné camera must be held steady and not swung around quickly at everything in sight. If you merely follow the directions in the instruction books that come with your camera the results are bound to be good.

There are numerous makes of ciné cameras on the market that will give equally fine results. Eastman ciné cameras are as flexible as their well-known Kodaks. The Bell and Howell Company, pioneers in the manufacture of standard motion picture equipment, offer numerous handsome precision-made ciné cameras. The Victor camera is a splendid machine and one of the first amateur ciné cameras to be perfected. A new compact and handy camera is the Simplex Pockette which has the feature of small size and simplicity. It is an excellent camera for the beginner and the initiated alike. Stewart Warner manufactures good ciné cameras and there are numerous other makes to suit any taste or pocketbook.

There are three kinds of film for the amateur ciné camera, the ordinary or orthochromatic, the panchromatic and the supersensitive. The cost increases in the order given. The first will make good pictures, but the panchromatic is so superior for use on the water that I would recommend using it entirely except for conditions when only the supersensitive film can be used. The supersensitive film is needed where the amount of light is limited, and is the only film for interiors.

This article touches only the barest fundamentals of photography. For those who want to study the art of this science further there are countless good books on the subject. For those who have not the time, but want good pictures, I would say, follow your instruction books to the letter and give them a little thought.

This photograph illustrates the result of taking a speed boat by moving the camera with the boat. It was taken with an ordinary Eastman postcard size camera at a speed of 1/100 of a second and an opening of F 11



Photos by H. M. Devereux

A Spinnaker Run

From a dry point by
W. Drewes

1931

"Evalu" with her entire crew on deck. She was designed by C. D. Mower

Across the Atlantic in "Evalu"

A College Professor Takes to the Water in a 37-Foot Schooner

By HENRY BLANCO

WHEN Ralph Stock wrote about the cruise of his *Dreamship* to the South Seas he seems to have started a veritable epidemic of adventurous voyagers to the tropics. I had, in the back of my head, a hazy idea about going back to sea. Prior to settling in America I had been a sailor before the mast for three years, and the call of the sea has always been strong in me. But it was a rather inarticulate and opaque notion, without definite form. And then one day I picked up a magazine and read Stock's article on *Dreamship*. When I laid down the magazine my mind was made up, my notion had acquired definiteness, it was almost tangible; I would circumnavigate the world in a small sailing ship. And my wife and 7-year-old daughter were ready to go with me.

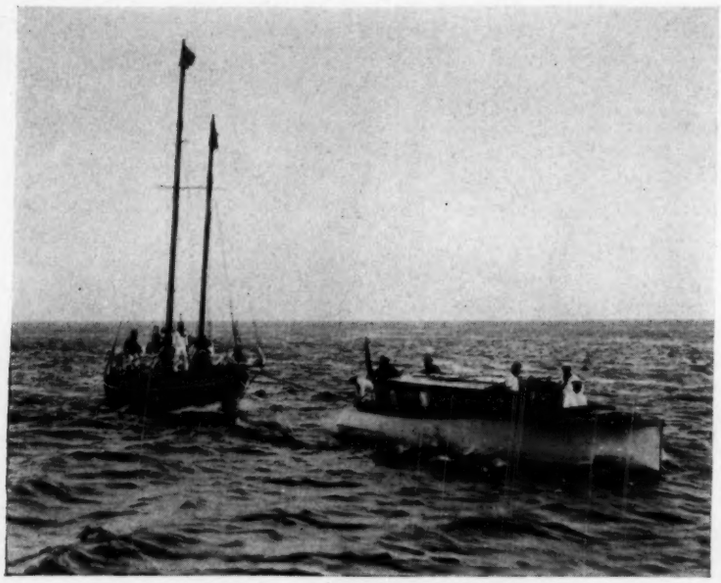
It was finally to John G. Alden, of Boston, that I went for help and guidance in securing a good boat within the means of my profession, teaching, and Mr. Alden's staff found her for me. She was a little schooner 37 feet over all, 11 feet beam, and 6 feet draft. She has the lines of a Gloucester fisherman, and is strong and heavily built. She was the *Lanette*, designed by C. D. Mower, and built in 1920. I would have preferred the ketch or yawl rig, but her schooner rig is easy to handle as the sails are small and well balanced. When I bought her she had one big jib, and in place of the foresail she had a clumsy staysail. Mr. Alden redesigned her sail plan, putting two headsails in place of the big jib, and a good foresail; the boom of the mainsail was also shortened so it could be reefed without having to hang over the counter. In her new sail plan she is very trim and well balanced, and often steers herself. She has ample accommodations with four comfortable berths.

When I bought *Lanette* she had a big three-cylinder engine. I had it removed, and in its place we put two copper tanks holding 100 gallons of water. These, with two other tanks, enable us to carry 200 gallons.

The smallest member of the family — and the most important — settled the matter for us; our little girl, seven years old, insisted that the boat be named after her. Our daughter's name is Evaline Lucy. By clipping off the stern of both these names, and then joining the remains, we got *Evalu*, a perfectly euphonious name that should suit almost any nationality. And thus the good ship *Evalu* came into being.

We fitted out at Dion's boat yard, at Salem, Mass. Towards the end of June, 1930, fitting out was completed, and we purchased our supplies for the voyage. In buying these supplies, we found valuable hints in the articles on various other voyages published from time to time in YACHTING. To take the place of bread, we bought 60 pounds of pilot biscuit in cardboard boxes, and very good they were. We also secured a sack of potatoes, 25 pounds of rice, 50 pounds of sugar, 20 pounds of onions, and a variety of other groceries and canned goods, sufficient to last us for 60 days. For chewing during the long night watches at the wheel, we took along 15 pounds of sweet chocolate and a 25-pound box of dried apples.

On Saturday, July 12th, we set sail for Santander, Spain. Here I must make some statement as to my navigational equipment. I had a good sextant, the Nautical Almanac, Bowditch, and Martelli's book for calculating longitude. I carried no chronometer because I did not have enough money. Instead, I carried a railroad watch — supposed to keep perfect time. Neither did we carry a barometer, or radio, nor any other instrument. Moreover, I have never attended any navigation



"Evalu" arriving at Melilla, Spanish Morocco

classes. A few days before we left I went to a retired sea captain in Boston and outlined the voyage. Then I asked him to give me one lesson in navigation, showing me how to handle the sextant, and shoot the sun. The captain consented, and right there he gave me a lesson that lasted two hours. And without any further instruction I started sailing *Evalu* from America to Spain.

The first night out we were becalmed, with the sails slamming about as *Evalu* rolled in the heavy swell. The deck was dripping wet with dew, and slippery; several times I slipped and fell. In the morning the log read 32 miles; 32 miles of what? My navigational difficulties were just beginning; I began to realize that navigating a small boat across the Atlantic is no Sunday school picnic. And I regretted not having delayed our departure a few days longer in order to take more lessons.

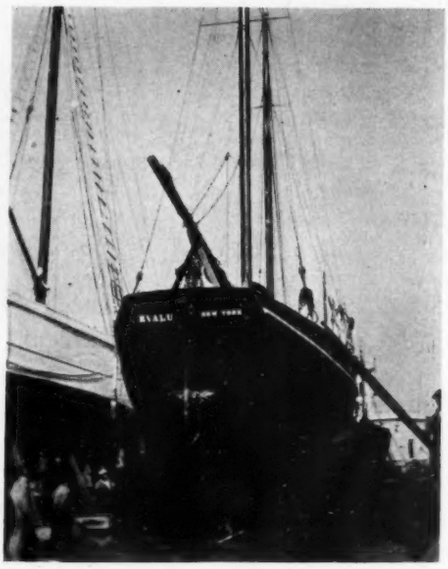
The morning of July 13th I took a sight and tried to figure out the longitude, but my figures were wrong. The ship rolled heavily and I found it hard to get the sun and take its altitude. At noon I calculated a latitude of 42° 20′. This is almost the latitude of Boston and agreed with my dead reckoning. So during the rest of this day I felt proud of myself; without ever having had any practice at all — and with only a two-hour lesson — I could get my latitude correctly. But my joy was to be short-lived.

On the 14th the wind hauled to the south and began to blow in earnest. I furled the jib and reefed the main. By noon *Evalu* was hove-to under reefed foresail and storm trysail.

The weather continued stormy until the 16th of July, without my being able to take any sights. All this time we were steering towards the southeast. The 16th was clear and calm, and at noon I worked out a latitude of 35° 51′. This could not be possible! I checked my figures and got the same results. I examined the sextant and found nothing wrong. In the afternoon I took a longitude sight and got 75° 00′. This position put us near Cape Hatteras. I began to doubt everything, lost my confidence entirely and at that moment was the most pessimistic person in the world.

In the afternoon of this same day we sighted several fishing vessels. We hoisted the American ensign and waved a towel to call their attention. One of them, the *Cormorant* of Boston, came near and I asked her skipper for our position. The answer came 41° 50′ n.l., 66° 20′ w.l., about 190 miles east of Boston Lighthouse. My errors of navigation, therefore, had been something frightful. I had committed an awful blunder in starting across the Atlantic with no more than one lesson in navigation.

We drove *Evalu* rapidly eastward under full sail. My sights and calculations the next day were also erroneous. I could only wait until we sighted another ship, ask them our position, and so on until we should reach Spain.



Hauled out in the shipyard at Barcelona

For several days the sky had been overcast. On the morning of the 20th a gale broke. By 4:00 A.M. we were hove-to, with only the storm trysail on the mainmast, *Evalu* behaved in a manner altogether unexpected: she would not point her head into the sea. Instead she lay broadside and rolled horribly. The confusion in the cabin was indescribable; pots, pans, dishes, canned goods, household things, all flew about. A cooking pot full of stew gave a somersault and fell into a bucket half full of salt water; the bucket promptly turned over and emptied water and stew onto the cabin floor. We had to wedge ourselves into the bunks with our knees. I should have put out a sea anchor, but I was too exhausted. However, *Evalu* proved capable of weathering the southwester unaided. Later I experimented with various combinations of sails and found that *Evalu* heaves-to nicely under trysail and reefed foresail.

Evalu, our little daughter, enjoyed the adventure thoroughly. She was always ready to eat, always happy and playful. When we decided that Evalu should make the passage there remained the problem of how she would spend her time on board, how to keep her amused and interested in our small boat. And then we invented a fabulous person, a fairy called the Sea Princess. The Sea Princess is a very nice lady who lives in the bottom of the Atlantic and is very fond of little girls. And when little girls are good and are always happy, the Sea Princess brings them toys, dolls and little presents. The day before we left America I bought a variety of toys and interesting knick-knacks. And when we were on the high seas there were many days on which Evalu found a little present by her bedside.

During the entire voyage Evalu kept her enthusiasm for this Sea Princess and always spoke to us about her.

In bad weather she would sometimes come up on deck, and enjoyed seeing the white foam of the waves, the "soapsuds."

The night of July 22nd, ten days out, we saw the lights of a steamer, the only ship we had seen for many days. According to my dead reckoning we were about a thousand miles to the east of the American coast.

At dawn of July 27th we sighted a three-masted schooner off the port bow. On approaching her, I spoke to her captain through the megaphone. Her entire crew lined the rail, watching us. Speaking in English, I asked them to give me our latitude and longitude. The answer came: "We Portuguese ship." Then I tried Spanish, and that brought understanding. They lowered a boat and sent three men over, with a piece of paper giving our position; they also brought a bottle of delicious port wine. They were from Oporto, fishing off the Grand Banks. On the slip of paper was the following: Latitude 45° 28′ N., and Longitude 53° 47′ W. By this time another schooner — a two-master — had appeared on the scene and approached us, after we had left the Portuguese astern. She was the British schooner *Freda M.*, also a fisherman. Her captain asked us several questions and made a few discouraging remarks about the long distance we still had to sail to reach our destination. She was bigger and looked more prosperous than the Portuguese, so I asked them if they had a few fresh provisions to spare. "We have lots of water," they shouted back. This finished our parley. I could not help comparing the spirit of courtesy and generosity of the Portuguese with the spirit of those Englishmen.

I plotted on the chart the position given me by the Portuguese, and the results nearly staggered me. It showed that we were at the northern edge of the Grand Banks of Newfoundland, about 75 miles south of Cape Race. My sights and figures had placed us in about latitude 40 and longitude 60, so here was another proof that my knowledge of navigation was exceedingly inadequate. Once more I had occasion to regret that I had studied the subject so little.

The departure from Salem

I shall pass over the questionings in my mind, my feelings on this Sunday morning, after we had left the fishermen astern. Suffice it to say that I was feeling as blue as the water around me. As a navigator I was a huge joke. Never in my life have I felt myself such a failure as I did that memorable Sunday morning. For a moment the thought came to me to go back to America, study navigation, and start all over again. But we would have had to beat our way back in the face of the Westerlies. Our little boat was sound, in splendid shape, and we had ample provisions. All that was necessary was that I learn navigation, learn it all myself, without help, from the ground up.

As the days went on I tackled this matter of studying very resolutely. Practicing with the sextant, I soon discovered a big error I had been committing. It was in taking my sights. I had not always held my sextant perpendicular. In the continuous pitching and rolling of the boat I had often taken the sun's altitude at angles that were everything except perpendicular. The result was that I got high altitudes, which in turn gave me low latitudes. These false low latitudes made me steer farther to the north, until I found myself almost on top of Newfoundland.

The morning of August 6th a gale from the southwest broke with clouds as black as ink. We hove-to under reefed main and foresail. The weather grew worse and by noon it was blowing gale force, with torrential rain. In the midst of this, while the mountainous seas were shooting us up to the sky one minute and plunging us into the abyss the next, there appeared off our beam a large white steamer, making straight for us. She crossed our stern less than a hundred feet from us, her whole crew on deck and gazing at our small boat with evident surprise. She flew the Danish flag. As she passed, her captain shouted, "Do you want to be reported?" I yelled a "Yes!" through my megaphone, and he waved his hand.

In the afternoon squall after squall passed, each from a different direction, and each threatening to blow our canvas to shreds. At the wheel I worked like fury, turning her around to meet the vagaries of the wind, and wondering where had I gotten the insane notion that I wanted to cross the ocean in a small boat.

As *Evalu* sailed into the Gulf Stream the weather grew pleasant and warm. She steered herself nearly all the time, and we lay about the deck, reading and dozing. One morning a huge shark, fully twelve feet long, came tearing at us. It snapped at the log line, lashed the water with its tail, and threw itself with force against our side. He kept on bumping hard against us, and the

In Barcelona, "Evalu" was given a royal reception

water became reddish with the copper paint from our side, which he rubbed off at each bump. I was surprised at this behavior; evidently the monster was either mad or very hungry. He stayed on the surface of the water, so near that we could touch his back with our hands, and he had the marks of several long scars all about his neck; he was an evil-looking beast. His actions worried me, so I took the boat-hook and plunged its sharp end deep into his neck, with all my forcé. He made a tremendous splash and dove to the bottom at terrific speed.

My improvement in navigation continued, and the results of my sights began to agree with the dead reckoning. Our position on August 18th, at noon, was Latitude 39° 40′ N., and Longitude 29° 37′ W., or about 75 miles northwest of the island of Fayal in the Azores.

At about 5:00 P.M., August 18th, we sighted the volcanic cone of Pico. It was a grand sight — land after 38 days at sea. I was so pleased with myself at the idea that I could make such a good landfall that I waltzed enthusiastically about the deck. My satisfaction, however, was tempered by the fact that Pico bore to the southwest of us, and this proved that my longitude was wrong, due to an error in the chronometer-watch.

In the distance we saw the dim outlines of more land to windward, so I lowered the headsails and we sailed close-hauled. By morning Pico had dropped out of sight, and we found ourselves in the midst of three islands, one to the west — Graciosa — another to the south — San Jorge — and another to the southeast — Terceira. We decided to try and make the port of Angra, in the island of Terceira. The wind died down to a mere breath as we skirted the rugged coast of this island. Night fell and we were still several miles from Angra. The Pilot book states that Angra is an easy port to make, so we decided to try it that night. Slowly we crept along until, finally, we rounded the promontory of Monte Brazil, and the lights of Angra were before us. The anchor was ready and so was the sounding lead; it was about eleven o'clock. I stood at the bow, sounding and shouting directions to the Mate, who steered. Soon we were in, sailing directly for the bright lights of the town. I sounded and found no bottom at eleven fathoms. Pretty soon we were so close in that I was afraid to get any closer, and still I found no bottom at eleven fathoms. Suddenly, a dark mountain-like mole loomed up on the starboard bow, only a stone's throw from us. I made a wild leap and let go the anchor; then I lowered sails. But the anchor hung straight up and down, with twelve fathoms of chain out, and *Evalu* began drifting slowly towards that awful rock. It was a wild moment. Happily, the breeze was a mere breath. We were wedged in between Monte Brazil on one side, the black mole on the other, and the black stones of an unknown wharf in front of us, and all about equally close to us; we had barely room enough to turn around. And all the time we were drifting towards that black rock. In despair I burned a red flare, while I shouted "*Ahoy*" to some human forms that we could make out in the darkness. For answer they shouted back, "No speak English." Nobody seemed to pay any attention to our red flare.

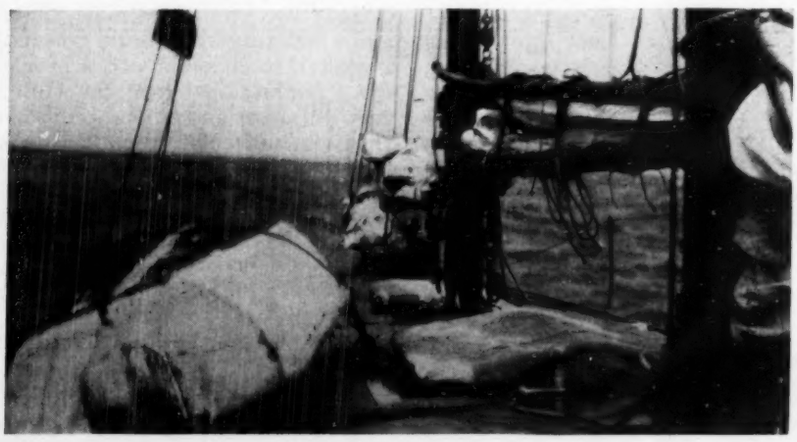
There was nothing else to do but try to sail out. I hoisted the sails and began to heave on the anchor chain. Slowly, *Evalu* turned around in the light breeze and headed for the open sea. As we left the forbidding black rocks behind us, the bells of the church in the town began to toll mournfully. I looked at the cabin clock; it was midnight.

By 2:00 A.M. everything was clear, and I laid a course for the island of San Miguel, some 90 miles to the southeast.

The following evening we arrived off Ponta Delgada. We saw the harbor lights and the reflection of the city lights on the sky, but the idea of entering that night did not even occur to me. We hove-to and waited for sunrise. In the morning we made for the harbor. The pilot boat came out, and soon the Portuguese pilot climbed aboard. A number of launches and rowboats surrounded us as we entered, and at 9:00 A.M. of August 21st, 1930, we anchored in Ponta Delgada, after a passage of 41 days from Salem, Mass.

The people of Ponta treated us very kindly. We received many gifts of fruit and wines, and were invited to the homes of some of the most important people in town. The manager of the local shipyard sent three men aboard to do some repair work I wanted done. Later, when I went to pay for this work, I was told that I owed nothing.

Our little daughter Evalu calls Ponta Delgada the "lovingest place in the world." This is because it is the custom here for grown-ups to kiss the children whenever a call is made; children are kissed both on arriving and on leaving. So little Evalu has been kissed by more strangers here than in her whole previous life, and she likes it. She thinks we ought to sell the boat and stay here, in this "lovingest town."



Hove-to off the Grand Banks

Summer was drawing to a close; the stormy season would soon be on, and our little boat still had to negotiate the stretch of ocean from the Azores to Europe. So, with many parting gifts and farewells, we set sail in the afternoon of August 26th and headed for Gibraltar. Many friends escorted us out in launches and rowboats. Finally, a parting chorus of cheers, much waving of hats and arms, and once more we were along on the ocean, with *Evalu* stepping briskly along before a fresh northeaster. We skirted the island all afternoon, and by midnight were becalmed off the eastern end of it, a little too close to shore for comfort. But the breeze soon came, and in a few hours the island of San Miguel was fading away astern.

On September first the steady southwesterly died. For three days we had logged an average of 140 miles a day, which put us about 155 miles west of Cape St. Vincent. Then we rolled helplessly in a flat calm.

(*Continued on page 88*)

The Friendship Sloop

Another of the Well-Known American Types

By H. I. CHAPELLE

THERE has been a good deal of talk about the weatherliness of small sailing yachts and about their ability to claw off a lee shore in a gale. However, there is not one small yacht in ten that can work to windward in really heavy weather. This sounds like a serious indictment; yet it is not, as few yachts are ever under the necessity of sailing to windward in winds of near gale force, since severe summer gales are rare.

Many yachtsmen are under the impression that a narrow, deep yacht, of heavy displacement, and with a lot of outside ballast, must be very weatherly and able to claw off the much discussed lee shore. This is not quite the case, as weatherliness depends not only upon weight and depth, but, of greater importance, upon the ability of the yacht to carry her sail and to stand up under it. A vessel that sails at a great angle of heel in strong winds will not be able to thrash out to windward in a real breeze. The ability of a yacht to stand up under a press of sail in heavy going depends, to a great extent, upon the relationship of the initial stability of the hull to the area of sail carried.

Practically all deep, narrow hulls have little initial stability, regardless of the quantity of ballast outside; hence their power to carry sail in a breeze is much reduced. The importance of outside ballast in cruising yachts for giving stability and power to carry sail is much overrated, as such ballast does not become efficacious until the vessel is well heeled, and then the efficiency of both sail area and lateral plane are reduced. The necessity of retaining all the efficiency possible in the lateral plane is understood when the strength of the surface drift in a gale, with its leeward scend, is considered.

A practical example of the lack of weatherliness of deep, narrow types are the numerous defeats, during the eighties, of the old, narrow English cutters by wide centerboarders in heavy weather. In spite of their greater displacement and depth, the six-beam cutters could not weather the more powerful centerboarders in strong winds.

In the type which is the subject of this article, we shall see the practical use of power to carry sail in heavy weather in order to obtain weatherliness under hard conditions. This ability is secured in a comparatively cheap boat. Power to carry sail and initial stability can be obtained by beam, hard bilges, flaring sides, length, or by combining any two or all these features of design. In the Friendship sloop, we find a combination of these features in a keel sloop. The advantages and disadvantages of great power and weatherliness, as here exemplified, will be easily seen.

To understand the whys and wherefores of the Friendship sloop, it is necessary to know what the boats were used for, and the weather that they had to be prepared to meet. Now, the town of Friendship, as most readers of YACHTING know, is on the coast of Maine; fishing was formerly the chief industry of its inhabitants. In early days, canoes, small sail and rowboats, and later small centerboard sloops, were used in the shore fishing then carried on. The centerboard sloops were introduced some time in the 1850's and were known as "Muscongus Bay boats." They were very popular with the lobstermen. These sloops looked very much like the present Friendship sloop above the load line, but were much shoaler boats. They were usually about 26 feet long; 8 feet beam; and 2¼ feet draft, with board raised. The rig was usually that of a single-headsail sloop. The mast was about 26 feet long above the deck; bowsprit, 6 feet outboard; boom, 26 feet long; and gaff, 15 feet long. They were fast, handy and seaworthy craft, and would work under mainsail alone. There is a rigged model of one of these sloops in the Watercraft Collection in the U. S. National Museum at Washington, D. C. These Muscongus Bay sloops were built all along the shore, but the greater number were put up at or in the vicinity of Friendship, by a family of boatbuilders named Morse. Some sloops of the Muscongus Bay type were built up to the beginning of the present century, and a few are still in use.

In the eighties, there was a great depression in the fishing business, which impoverished the schooner fishermen to such an extent that many were forced to employ sloops in the Georges Bank fishery. The appearance of sloops on Georges, and the decline of the 'longshore fisheries, encouraged the Maine fishermen to employ sloops also. The sloop fishery out of Gloucester and its vicinity developed a type of sloop known as the "Essex sloop boats," one of a whole class of sloop-rigged vessels which may be classified as New England sloops. The Essex boats were powerful keel sloops, usually about 45 feet long.

These sloops having become familiar to the Maine fishermen, there was a natural tendency to replace the Muscongus Bay type with a deeper type, since shoal draft was no longer necessary. The result was that a new type was developed, a reduced copy of the Essex sloop in model. Due to limited means, the Maine sloop fishermen could not afford the larger boat. Since there was so close a connection between the Gloucester fleet and the Maine sloops, it is not surprising that the styles in Friendship sloops changed with those in the Essex sloops and schooners.

The Friendship sloops which went offshore worked winter and summer and so had to meet all kinds of weather. In summer they had to carry enough canvas to sail well in light airs, while in winter they had to face the necessity of beating home, heavily laden, against a howling winter nor'wester. This meant that the sloop had to be both stiff and weatherly, yet she had to have fine lines in order to sail fast, to compete for market with the rest of the fleet.

In the course of the development of this type, the Morse family, at Friendship, became the leading builders and designers. Their boats were widely copied in neighboring towns, but the sloops were always classed as "Friendship sloops" regardless of actual place of build.

Figure 1 shows a typical Friendship sloop of the offshore fishing class, modeled by Wilbur Morse about 1890. Boats of this class are among the most powerful of sailing craft, in comparison to their length, of any American types. An inspection of the sections in Fig. 1,

will show the reasons for this. Due to the shape of the mid-section, it was possible to locate the inside ballast very low in the hull, which, combined with the great beam, rather flat floors, hard bilges and wide, heavy quarters, enabled this sloop to stand up on her bottom and sail when an easier and sweeter-lined boat would be deck under. The comparatively long, straight run and flat quarters allow this type of hull to move very fast on a reach, or when running, and make for increased stability in windward work in hard going. Undoubtedly, sloops on this model were quite wet when punching into it, as they are rather wall-sided forward.

The rig has little to recommend it, as far as looks are concerned, but was typical of the period. The large area was necessary to drive the powerful hull in light weather, as the large amount of wetted surface and displacement, in proportion to length of hull, made resistance high at low speeds. Yet if this form of hull was not used, the vessel would not have power enough to work to windward in heavy weather. It should be emphasized that great stability and weatherliness require a large area of sail to get the satisfactory combination. The recent attempts to combine heavy displacement and small sail area in one boat only prove that such a combination is impractical if even fair sailing qualities are expected. It is an unfortunate fact that heavy displacement, and its possibilities for increased accommodation, must be paid for by increased sail area, which, in turn, means greater labor in handling. The Friendship sloop illustrates this. If it had not been found necessary to have a large sail plan, the fishermen would not have paid the price to possess it.

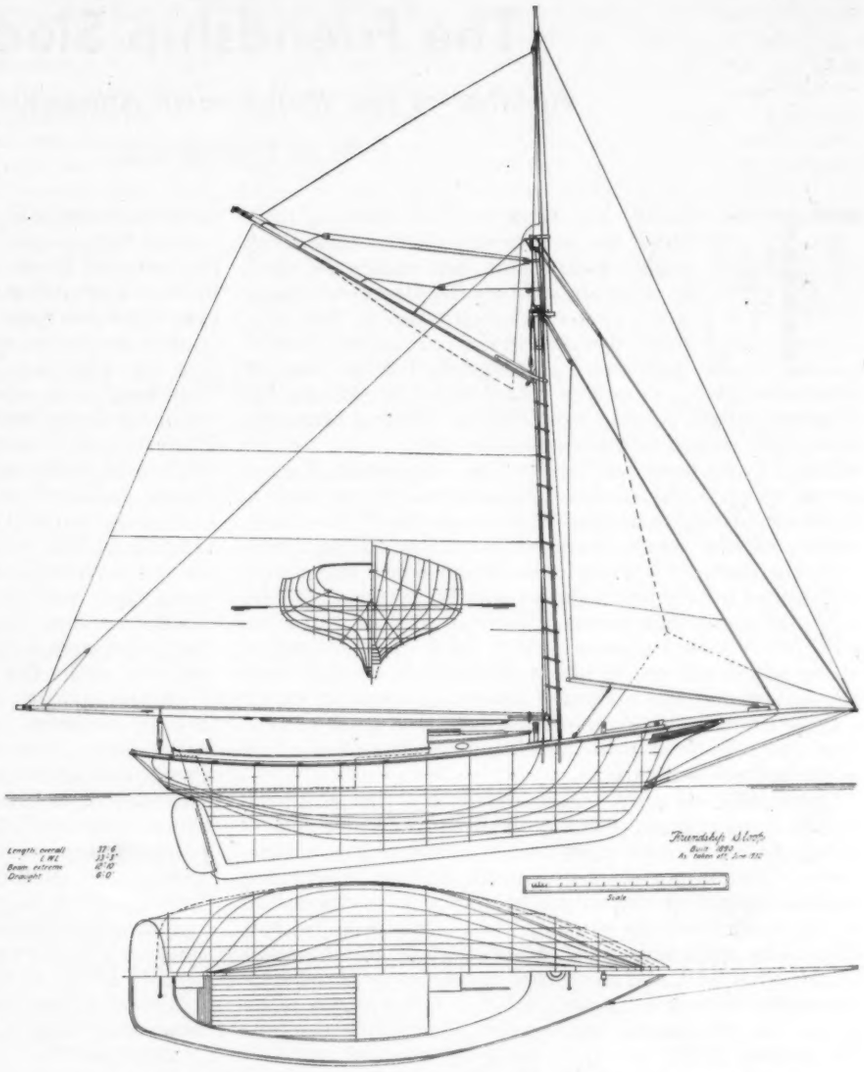


Fig. 1. A Friendship sloop of 1890. The topmast rig was typical of this period

Some of these sloops were fitted with live fish wells, and were therefore smacks, but most of them iced or salted their cargoes of fish. All had large non-self-bailing cockpits and a small cuddy forward. The ballast was gravel and small stones, as a rule. The rather long, high cutwater and trailboards are seen in all Friendship sloops, the name of the builder usually being carved or stamped into the trailboards. Another peculiarity at the bow is that there is rarely a gammoning iron on the bowsprit, which depends upon a few bolts and the bobstays for strength to withstand the pull of the headstays. The transom is always elliptical, as in the Essex schooners and sloops. This shape of stern and transom was introduced in Gloucester by the schooner *Ripple*, built at Essex in 1853 by Joseph Story. The tumble home of the quarters probably became popular because it prevented the fouling of the main sheet by hooking under the corner of a square transom. It is a very handsome stern, as well, and lightens the appearance of the heavy quarters. The length of the stern overhang gradually increased as the Friendship sloop developed.

Topmasts are no longer to be seen in the Friendship sloops, though the ironwork is sometimes noticeable on the older and larger boats. Some had spreaders and futtock shrouds, as in the drawing, but on most of them the topmast shrouds were brought down to the chain plates from over the spreaders. The long, low gaff was employed in the Gloucester schooners and sloops, as well as in these boats.

Few realize the close relationship of the Friendship sloop to the Gloucester schooner in both model and rig. When the improved schooners of the *Fredonia* model became popular at Gloucester the same hull features were used in reduced scale for an improved Friendship sloop. The model shown in Fig. 1, however, remained a popular one and a large number of sloops were built from the same lines, some variations being made, such as more or less sheer, the omitting of the swell of the rabbet, or decreased hollow of the garboards. Dimensions were also varied. The large offshore sloops were built well into the late nineties, but a decline in the offshore sloop fisheries decreased their number by 1900. Some of the large sloops found employment as cargo and farm boats, but most of them have disappeared. In winter the topmast was struck and left ashore; in summer, a topsail, and often a jib topsail, was also carried.

During the nineties a greatly improved sloop was introduced in the shore and lobster trade. The Friendship sloops, being no longer used in the offshore fisheries, became smaller. In the banks fishery a crew of three or more men was carried, but in the shore fisheries two men, as a rule, comprised the crew. Hence the new boats omitted the cumbersome topsail and gear. Their hulls were made somewhat less powerful, and the improved model of the *Fredonia* was employed. This gave a more cutaway underbody profile and easier sections. The appearance of the rig was greatly improved by peaking up the gaff, but the comparative length of the spars remained the same. The power was much reduced by these improvements, but the ease of handling was greatly increased. The result was a sloop that was not only handsome, but handy, and sufficiently powerful to work to windward in anything but a hard gale, yet which was reasonably cheap to build.

Figure 2 shows a Friendship sloop of this improved type, which quickly became the most popular model among the shore fishermen. It is noticeable that the stern overhang is longer and the sheer more yacht-like, the lines being much easier than was the case in the earlier sloops. The draft was increased, in proportion to the overall length, but the displacement was proportionately reduced. This is the most suitable type for conversion to a yacht.

No particular rules appear to have been used in proportioning the hull, though the beam is usually one-third the overall length. The length of the spars seems to be of about the following proportions: length of mast equals length overall, plus half the depth; length of boom equals the overall length; length of gaff, such that when lowered its outer end comes to the transom; bowsprit, outboard, is equal to one-third the length of the boom. The mast is nearly perpendicular, and is placed about one-fifth of the l.w.l. length abaft the stem.

A study of these two plans will show how power to carry sail in heavy weather was procured. For considerations of cost, outside ballast could not be employed. Therefore, the inside ballast had to be located as low as possible, which was accomplished by hollow garboards, wide enough above the keel, however, to permit the larger proportion of the ballast to rest on top of the keel itself. Initial stability was further increased by the use of flat floors, beam and hard bilges, as has already been pointed out. Sharp lines were employed in order to get as much speed as was possible with the necessary displacement and sail area. However — and remember this — fine lines were not enough to make these sloops fast; they had to have a large rig, which meant more work to handle. The rig was certainly not one for weak men to handle in a blow. The offshore fishermen were strong, hardy men — they had to be to stand the hardships of the life. Imagine what it must have been like to beat home against a shrieking winter nor'wester in a small sloop. The deep reefs were put in the mainsail for a real purpose, not for the sake of appearance.

The reason for the cheapness of these sloops lies in their construction, which, it must be said, was poor. The workmanship was fair, but the fastenings were slight, and the construction generally weak. Someone is going to ask why, if this is the case, the boats last as long as they do; the answer is that as long as they do not take the ground heavily their strength is not put to a severe test. Their construction will not stand much pounding, which is the only test of fastenings. There are some of these sloops now being used as yachts that are in a dangerous state and that need extensive repairs.

As an example of the construction, take this description of a 30-foot boat, with 10-foot beam. Her scantlings were as follows: keel, stem, sternpost and knees, oak; siding, about 4½ inches (there was no swell in the

(*Continued on page 90*)

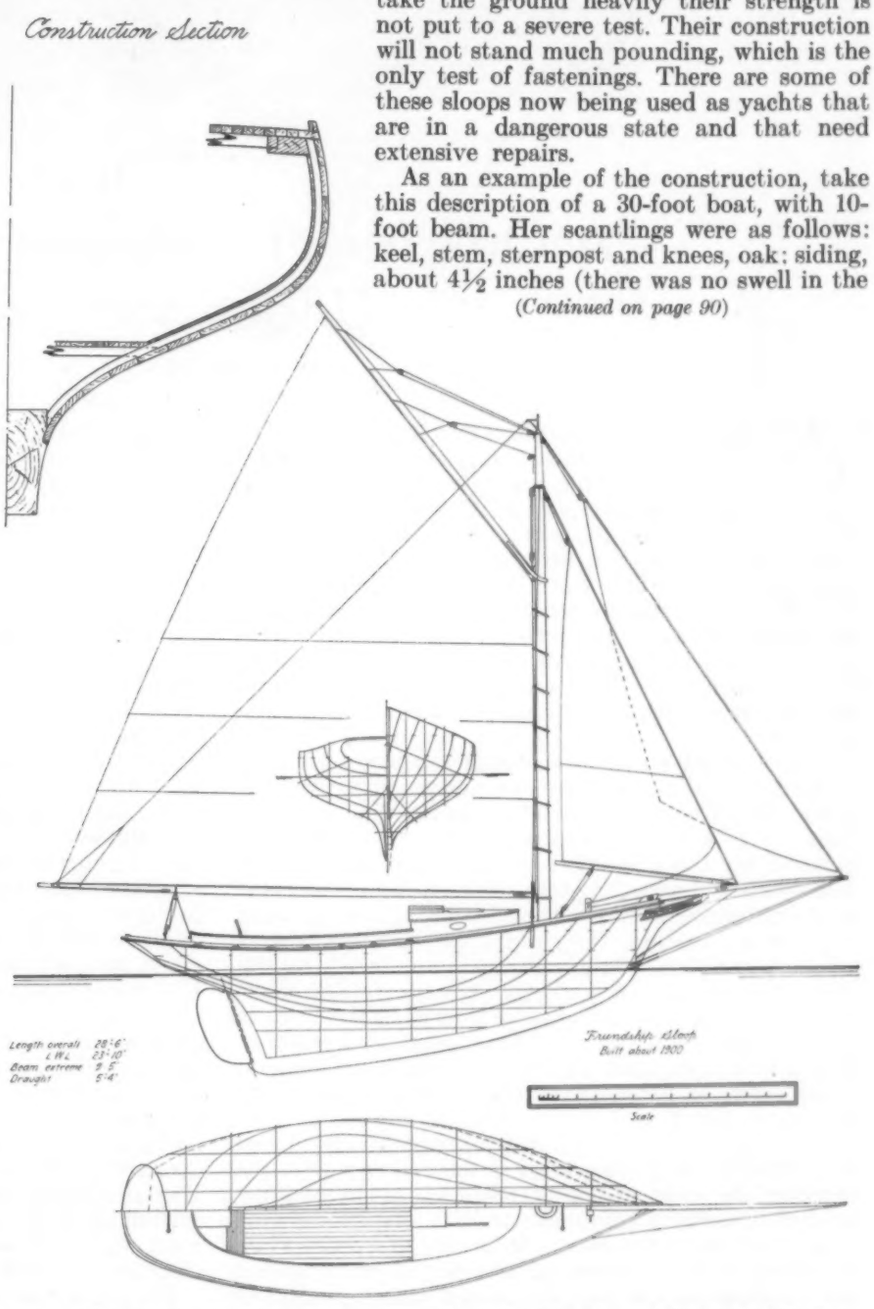
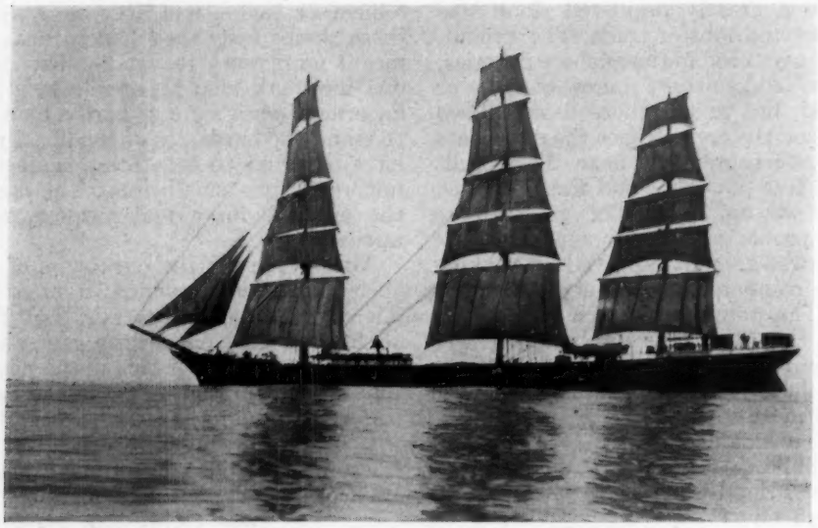


Fig. 2. By 1900 the Friendship sloop had undergone considerable modification, both in line and rig, although retaining the general characteristics of the earlier model



The ship "Dunsyre." Through eight years of her life she sailed over a quarter of a million miles in all the seas of the world

A Quarter of a Million Miles Under Sail

By R. MOYES

THE waters of San Francisco Bay lay placid in the evening calm, catching, here and there, the fiery glow of the setting sun. An outward-bound steamer was thrown into bold relief as she headed into the flaming wake of the sun streaming through the Golden Gate. I sat on a little beach and lit my pipe. Out on the mud flats of Sausalito Bay lay a full-rigged ship. The light of the sun touched her dilapidated spars and rusty hull with that softness of fading light that stirs some emotion of sadness, and away in the distance the faint murmur of the sea breaking on the rocks lent to the ear that strange fascination associated with the sea and ships.

The vessel lay there on the mud with not a piece of running gear aloft, nor even an anchor or a chain — just stranded on the mud, discarded, a victim of the changing tides in the affairs of man. As I sat and watched her the magnificence of her soul flooded my thoughts and I saw the grace of her hull in a seaway, her lofty spars crowded with billowing canvas heading into the sea beyond, shimmering in the moonlight. I watched her plunge and roll and bury herself in the drifts of a raging sea, a glorious creature whose spirit had been imbued with the magnificence of the gale. It was all a picture of a romance that had gone, a romance that she had struggled to hold. I could see the name in faded letters on her stern; it read "*Dunsyre*, San Francisco."

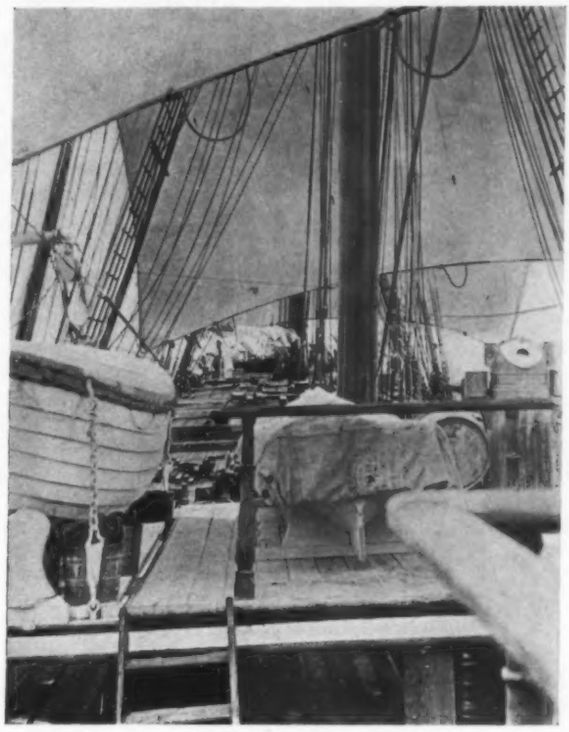
Memories came as I sat and watched her, for I had seen her lofty trucks steal out of the night to greet the dawns of the seven seas. I had spent hours watching her sails and towering spars mingle with the Trade wind clouds and the stars as she reeled along over a white horse sea, bound to some distant port. I had watched her run before a howling gale, buried in the spindrift of the "Roaring Forties," with the flying scud overhead and the gale roaring in the rigging as if it were the wail of the solitudes. She belonged to the deep waters, the stars and the dawns, and the drifts of the lonely tracks of the open sea. For eight years, the *Dunsyre* had been a part of my life. I do not mean an egotistical part, I mean the Mate in me, concerned with the trim of the yards, the chiming of the bells, the Mate's Log, the reeling wake, the sunsets and the middle watch at night. She and I had shared something in common, a life on the fathomless deep, and during those eight years her keel had ploughed over a quarter of a million miles on all the seas of the world, from north of the Orkney Islands to the lone wastes of the rolling Pacific south of New Zealand.

The *Dunsyre* was a steel full-rigged ship, built in Scotland, with single top-gallant yards and royals, and 2014 tons registered. Originally owned by a London firm, she was sold to San Francisco owners on or about 1908. From the standpoint of marine architecture she was somewhat unique, for her gross tonnage more than doubled her registered tonnage, and she could not only stand up without any ballast but she could be towed and would even sail in light weather with clean swept holds. This capability naturally gave her a large coefficient, but it did not minimize to any great extent her sailing qualities. Although she was not a clipper she was an excellent sailer, especially on the wind and when running heavy. In the battle of freights she competed with the steamship with remarkable success, but she fought a losing battle; being a sailing ship she held no finality over the elements, as does the steamer. After the Great War she was forced to coil up her ropes and let her splendid hull be shelved on the mud flats of Sausalito Bay, where she lies today, one of the relics of an era that has gone forever.

During the last decade the *Dunsyre* was perhaps the only ship plying a regular trade as a freight carrier on the high seas. She was never laid up and never without a

cargo during the whole period of her American ownership. It is a long story, the history of all her voyages, and perhaps the most remarkable that any ship afloat has ever had, both past and present, not as a maker of record passages, but as a competitor with the steamship in an age when the sailing ship was practically obsolete.

On one occasion we loaded coal in Newcastle, Australia, for Mejillones, in Chile, making the passage in 22 days, and beating, by five days, one of Andrew Weir's steamers that left port with us, bound to the same place. On a long passage from Puget Sound to Port Elizabeth we made the Horn in the dead of winter and lay becalmed for 24 hours with the mercurial barometer the lowest that the *Dunsyre's* log books had ever recorded, 25.76 inches. We lay, as Shakespeare says, ruminating over the morning's danger, and to while away the suspense of waiting we fed Cape pigeons from the rail. There were countless thousands of them and very tame. The gale came away in a very heavy fall of snow, but the wind was not phenomenal. Some nineteen days afterward we dropped anchor in Port Elizabeth, and we never had an opportunity to get the upper topsails on her.



Looking forward from the poop

It was off Gough Island, on this passage, that both Captain T. W. Smith and I experienced the hardest blow in our lives. The ship was forced to run under bare poles for 24 hours. This gale was unusual in its movements as compared to the general run of gales in the high southern latitudes. We were running along, at the time, with a heavy gale on the quarter registering about 8 Beaufort scale. The sea was running high but was not dangerous, and the barometer had slowly risen to 29.46, when it fell rapidly to the bottom of the glass and began to pump violently. The sun came out at noon and we got an excellent observation. At two bells in the afternoon watch she was struck by a heavy squall. The fore and main lower topsails blew clean out of the bolt ropes, and the ship scudded before it like some frightful monster of the deep, fleeing as if in abject fear of the might of the sea. The heavy breaking combers were lashed into blinding spray and the yards aloft see-sawed about on the braces as if they were writhing in agony.

While in Lorenzo Marques, Portuguese East Africa, on one occasion, we had the honor of dropping a cork fender between our sides and that of a Portuguese bark, whose bell on her fo'c's'le head revealed her startling identity, *Cutty Sark*. She was literally hung together aloft with rope yarns and her sails were not much better. Some few weeks later we left port and had made a good offing off the land when the wind fell to almost a calm. A sail was reported on the quarter and the binoculars identified her as the *Cutty Sark* overhauling us. In a few hours she backed her main yard off our quarter and the two captains had a friendly chat. We were in ballast at the time and just holding steerageway. After bidding us a *bon voyage* she filled on her main yards and stood away up the Mozambique Channel. To many of us sailors aboard that was the most impressive incident that we had ever witnessed. We computed her speed at seven knots and we watched her sail into the night lost in the profound wonder of her sailing qualities and in contemplation of her glorious record as one of the fastest ships that ever floated. It was during the passage to Newcastle from Lorenzo Marques that we logged for ten days running over 300 miles per day, making the passage in 24 days.

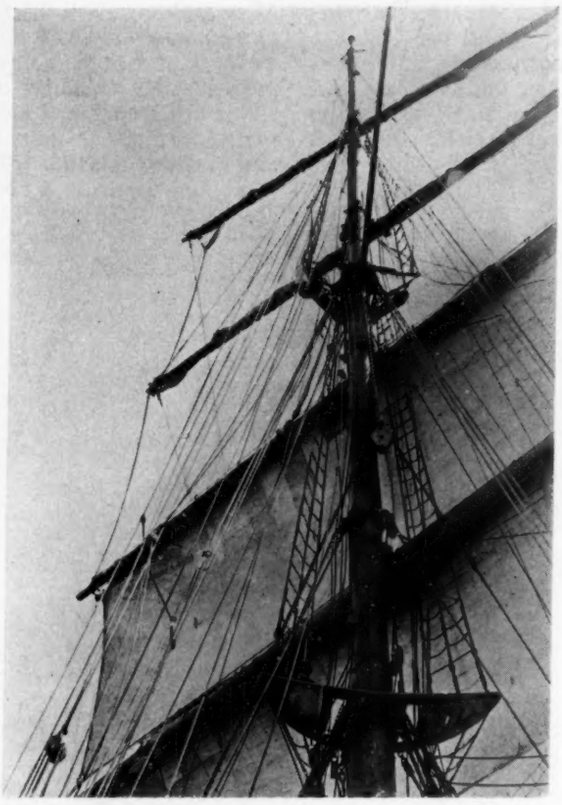
The finest weather passage we ever made was in the Pacific Ocean on a run from Puget Sound to Sydney, Australia. Not one sail was furled the whole trip. From the time we set sail off Cape Flattery the braces were not touched until we were four degrees south of the Line, when, in a light rain squall, we broke into the Southeast Trades. After trimming the yards the braces were not touched again until we arrived off Sydney Heads. A glass of water placed on the cabin tables at the beginning of the passage would never have moved the whole 8000-odd miles. Twice during the Pacific Ocean passages, while using the eastward route to keep out of the track of the South Sea hurricanes, we backed our main yard off Pitcairn Island. On the first occasion no ship had closed the island for over eighteen months and we enjoyed immensely the company of the descendants of the mutineers of the *Bounty*.

In our wanderings we have seen the loneliest pieces of land on earth; islands desolate and bleak in the high southern latitudes whose frowning rocks have been pounded for time immemorial by a storm-swept sea. We have seen the magic of palm trees coming up out of the sea, clinging to a lonely coral atoll on a little patch of soil not more than four feet above sea level. We have sailed over banks in the South Seas whose green waters were like an emerald set in a sapphire sea, and the snow-white sands, fathoms deep, could be seen by the men working aloft on the royal yard.

One morning, in 1915, we dropped anchor off Balboa, in the Panama Canal. The Canal had been open just six weeks. We entered the locks and in a few hours we dropped anchor off Colon, the first sailing vessel to pass through the canal. No doubt the locks were lined with the spirits of ancient mariners from Vasco De Gama down to all the shipmasters who had rounded Cape Horn in sail. Our port of destination was Stockholm, and we followed the steamship route through the Straits of Florida. Across the Atlantic we made a Great Circle track to the north of Scotland. When off the Orkney Islands the wind fell to a calm and we were boarded by some of the islanders in a small boat. The sea around was strewn with wreckage, the German submarines having been very active in these waters.

The *Dunsyre* was the first American ship that the

inhabitants had seen in these waters for the past thirty years. We got across the North Sea without being molested either by the British patrol or by German submarines, and rounded the Nore with a spanking breeze. On entering the Baltic we were captured by the Germans and taken to Stettin. In the archives at Washington there is considerable diplomatic correspondence concerning the *Dunsyre*. After three months in Germany the ship was released and sailed for New York. Again we sailed through the war zone without sighting a single craft. From New York we sailed to Port Arthur, Texas, and loaded case oil for Sydney, Australia. The passage was made in 86 days with a hobo crew whom we had to train for ten days in Sabine Pass before we dared put to sea. On the passage they tried to set fire to the ship five times and on arrival in Australia they ran away. Most of them saw active service with the A.E.F. at Gallipoli.



"Dunsyre," looking aloft along the foremast

The *Dunsyre* then proceeded to Chile with a cargo of coal and loaded nitrate for the Delaware. Once again the ship passed through the Panama Canal, the first sailing ship ever to circumnavigate the globe using this route. There is no record in shipping of a sailing vessel having ever done so since.

During the eight years in which I wrote up the *Dunsyre's* log book there is not a single record of her having ever shipped a sea that did any damage, nor of her losing a spar, or suffering a marine disaster. With any kind of a breeze at all, and especially on the wind, the ship would go where the steamship went.

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It was long after dark when I left my seat. Through the gloom I could see the night fog coming in from the sea, shrouding the old ship's lofty spars with mist.

Galley Stores for Cruising

Some Suggestions for Simplifying the Food Problem

By A. W. MOFFAT

MANY a man who undertakes cruising for the first time realizes only then the extent to which he has been dependent on women for the daily variety of food to which his system has been accustomed and which he has taken completely for granted. When he undertakes to stock the larder of his ship he gazes vaguely but hopefully at shelves in the grocery store which carry so bewildering an array of canned goods that he is apt to buy, haphazardly, any assortment of canned meats, canned vegetables and canned fruits that catch his eye. The result is a diet lacking the elements of fresh food which have a definite effect on his system.

The success of a cruise depends on a well-fed crew. An abrupt change in type of diet is quite likely to result in upset dispositions, if not upset stomachs. Here are some suggestions for better feeding.

1. Get a cook book. The *Galley Guide*, published by YACHTING not only tells you in simple language how to cook under marine conditions but it lists almost every type of food you are likely to want to take with you.

2. Make an inventory of stores already aboard. When you plan a cruise first figure out the number of breakfasts, lunches and dinners you will have to prepare and for how many people. Then make up an assortment of menus of dishes that you like and add to the inventory of stores the items you need. It is a great convenience at the end of a long, hard day to look over a list of meals for which you know you have the ingredients already aboard and to select one which most appeals to your appetite, considering the time available for preparation.

3. Keep your ship stocked at all times with the nonperishable supplies which you are likely to want, so that when you start on a cruise you have only the perishable foods to purchase. Your inventory list of stores aboard should be corrected at the end of the cruise so that you can take it home in your pocket. Without it, it is surprising how easily you forget just what you have left aboard when the time comes to put in supplies for the next period afloat.

4. Remember that no matter how little experience in cooking you have had you can do just as good a job as an experienced cook if you are willing to follow instructions literally as set forth in a good cook book. It takes only the willingness to test by taste and the courage to try.

If space is available for stowage the nonperishable food supplies for the whole season can be put aboard

when the vessel goes into commission. In this category are the following: bottled beverages, canned vegetables, fruits, butter, fish, milk, soups, meats and anything else which comes in sealed tins, such as certain kinds of cleaning powders. All cans should be placed in the bottoms of transom lockers, name side up. If you have a clean, dry bilge it will accommodate a great quantity of canned food, as well as catsup, vinegar, olive oil, mayonnaise, jams and condiments.

For semi-perishable foods space should be found for a set of good-sized Mason jars. Each should be labeled with a bit of adhesive plaster bearing the name of the contents in ink. Paper labels wash off and it is sometimes embarrassing not to be able to tell which is flour and which baking powder. In these jars you can keep safely anything susceptible to moisture and which temperature does not affect. Tops should be kept screwed tight. In addition to the powdered supplies such jars are excellent for storage of matches, split peas, cereals, coffee, tea, macaroni, rice, salt and other dry groceries. Spices should be stored in the galley in the small sifter top tins in which they are available. Mustard, cinnamon, curry powder, nutmeg, paprika and black pepper will probably be enough of an assortment.

Perishable foods are those which must be kept in the ice box or its equivalent. In Down East cruising the water is sufficiently cold to take good care of fresh foods stowed in a dry locker against the inside of the planking below the waterline. Any canned product should be entirely removed from the can as soon as it is opened and any unused portion stowed in a bowl or dish in the ice box to be treated henceforth as a highly perishable product. One of the most satisfactory of canned products is butter. This can be carried in the bilge, but it should be chilled before opening. The writer is today using butter which has been carried in the bilge for two years in one-pound cans and is still indistinguishable from new. Generally considered as the principal perishable foods to be taken aboard at each opportunity are: milk, eggs, bread, fresh meat, fresh fruit, and fresh vegetables.

Onions, potatoes, bread, and salt meat, such as ham and bacon, each offers a particular problem depending on the stowage available on the particular craft. Onions and potatoes are bulky, yet they must be kept absolutely dry. Bread goes stale quickly. Probably the best place to store it is in the oven, but don't forget to move it before starting the stove. Hams and bacons get mouldy more quickly than you would expect. Sliced bacon should be kept in the ice box. Hams should be stowed in a dry place, and thoroughly wrapped against penetrating odors.

Prepare as much fresh food as possible and fall back on canned food only when necessary or for variety. Use all meat scraps and bones to boil for soup to which should be added Vegex for flavor. Any leftovers should go into the soup kettle, whether meat, vegetable or cereal. It should be seasoned to taste. One of the most important things to do to soup is to clear the fat. Strain off the liquid from the soup kettle and set it to cool; then take a piece of ice the size of your fist, wrap it in a clean cloth and dip into the surface of the soup. The grease will all be drawn into the cloth as if it were blotting paper. Keep using a fresh section of the cloth until the grease is out of the soup, then reheat the soup before serving.

Use the oven rather than the frying pan whenever possible. Bacon is better cooked in the oven. The easiest meal to prepare is a roast of meat with potatoes roasted in the pan at the same time. To make brown gravy, take a small quantity of the hot fat in the pan, poured off through a strainer into another pan, and to it add flour, well stirred in. Keep stirring, using the top of the stove, until the mixture has become the desired shade of dark brown. Then thin out to the desired consistency with *cold* water. If you use warm water the gravy will separate. Stir some more while you add seasoning to taste, and you have the finest brown gravy in the world.

Do not serve more than one starchy vegetable in a meal. If you cannot serve a fresh vegetable serve a canned green one. Fresh, canned or dried fruit should be served with every meal for purposes of health. If coffee is to be kept on the stove for a night watch always pour it off the grounds first.

There is an incredible assortment of foods available in cans, including whole hams and whole chickens, already boiled. There should be no excuse for lack of variety on any voyage, even if the passage is too long to keep fresh supplies. Green vegetables keep surprisingly well if kept cool. In boiling them follow this rule. Get the water boiling vigorously first; then sprinkle in the vegetable slowly enough so that the water does not stop boiling. The pot must be kept uncovered or green vegetables will turn brown. A pinch of bicarbonate or cooking soda added to the water just before the vegetable is soft enough to serve will bring it out bright green. Do not add salt until after the water has been poured off. Let it remain in the strainer, set over the hot water in which it has been cooked, with a cover over the strainer. Add butter just before serving.

In cooking cauliflower or cabbage, keep the pot covered while boiling and insert a thick layer of newspaper between the top of the pot and the cover with a weight on top of the cover. The steam which carries the offensive odor will be absorbed by the newspaper.

Don't forget the importance of getting fresh bait for fishing at every opportunity. In almost any anchorage you can get ground fish for breakfast. When underway trail a fishing line with a spinner of some sort. Sometimes you will get a surprise package.

(Continued on page 102)

"S'cups of coffee"

A Wind Meter

A Practical Home-Made Device for Measuring Wind Velocities

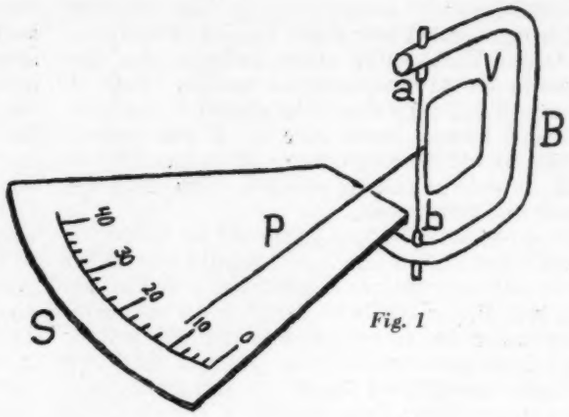


Fig. 1

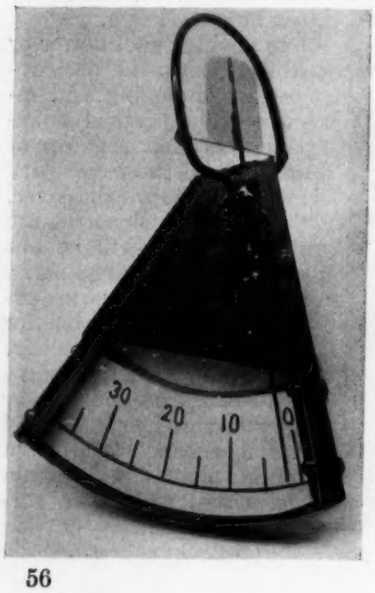
By E. O. HULBURT

THE little instrument described in the following paragraphs was designed to measure the strength of winds and gusts of wind. In general, I have no use for gadgets on a boat, but the wind meter is such a small affair that it may be flipped overboard without compunction whenever one gets tired of it. Recently, while sailing our small 30-foot ketch from Maine to Chesapeake Bay, we found considerable interest in using the instrument and were not inclined to throw it away.

The wind meter is shown in the drawing of Fig. 1. *V* is a mica vane attached to a light pointer, or needle, *P*, which is attached to a small phosphor bronze torsion wire, *ab*, supported in the frame, *B*. The pointer moves over the scale, *S*, when the vane, *V*, is deflected by the force of the wind. There is a housing over *P* with a transparent celluloid window so that the deflections of the pointer may be read on the scale. Figs. 2 and 3 are photographs of a home-made and a shop-made model. The wind meters were calibrated by observing the scale readings while being driven along in a car at various speeds on a quiet day.

For measuring wind velocities up to about 40 miles per hour the following dimensions were found suitable: mica vane 0.87 inch square, 0.003 inch thick; pointer, whittled out of a splinter of bamboo, 3 inches long, 0.025 inch in diameter at the vane, tapering to 0.01 inch at the end; torsion wire, of phosphor bronze, 1.9 inches long and 0.009 inch in diameter. The vane was cemented to the pointer with marine glue (or with shellac, or any kind of waterproof cement). A small wire cross-arm 0.4 inch long was soldered to the middle of the torsion wire and the pointer was stuck to it with marine glue. This made a firm attachment and the pointer did not break away when twisting the torsion wire. The instrument was very light and rugged and could be carried carelessly without damage in the hand while walking about in a 40-mile breeze. The weight of the pointer and vane together was about 130 milligrams, and the frequency of vibration about 20 vibrations a second. Thus the pointer followed faithfully every puff and eddy of a breeze. It was surprising to find how full of quick variations and eddies is even a steady breeze.

With the wind meter one can test that charming table of the late Admiral Sir F. Beaufort. "Wind from 19 to 24 miles per hour, small trees in leaf begin to sway, crested wavelets form on inland waters." We found it exactly so. "Wind from 25 to 31 miles per hour, smacks double reef gaff mainsail." We reefed, although we didn't have a gaff. "Wind from 32 to 38 miles per hour, smacks remain in harbor, those at sea lie to." We ran before it, a gorgeous sail down Long Island Sound before a heaven-sent easterly (September 12th, I believe it was), under jib and mizzen, with puffs that during the morning reached over 35 miles. Actually, I doubt whether the wind meter can tell one anything about his boat that he doesn't know already for daylight sailing. At night, however, if it breezes up, or appears to, and reefing seems in order, its use may settle a lot of argument.



Left. Fig. 2, a simple home made wind meter with a mica vane actuating a bamboo pointer

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Right. Fig. 3, a shop made wind meter is rugged and the vane is well protected by the circular housing from damage

Rating Ocean Racers

Where the Present Rules Fail, and a Suggestion for a More Equitable One

By GORDON MUNRO

AFTER the Transatlantic and Fastnet races of last summer an attempt was made by British and American yachtsmen to bring about the adoption of a common rating formula by the leading ocean racing organizations of both countries, and thus pave the way for international competition upon an equal basis. The attempt has not yet been successful, for in the Bermuda race this year the 1930 rating formula is still being used.

This is to be regretted. The adoption of a common rating rule is a progressive step which will have a great influence upon the future of ocean racing. Delay at this time is more harmful than beneficial. Just as a new rule would stimulate interest, the continued use of an old, defective rule is bound to have a dampening effect, both upon the movement toward unification and upon the plans of individual yachtsmen. From an international standpoint delay in reaching an agreement is detrimental to the enthusiasm and fine feeling which prevailed during the stay of the American yachtsmen in England last summer. The individual who might take advantage of the present favorable situation for building naturally wishes to know what type of yacht, if any, a new rule will favor. If it is possible to agree upon a common rule, suitable for use on both sides of the Atlantic, it is highly desirable that this be accomplished without further delay.

Ocean racing, once considered dangerous and foolhardy, has recently become increasingly popular. Although an old form of competition in war and commerce, it is, but for a few outstanding exceptions, a comparatively new sport. That it will continue to gain in popularity is evident by the interest it has aroused, both here and abroad. To date it has been confined principally to the English speaking nations, yet ocean racing naturally suggests *international* racing. It should bring together, on friendly and equal terms, yachts and yachtsmen of various countries. The time has arrived to organize this branch of yachting upon a solid foundation, the keystone of which is a good measurement rule. Wisdom and foresight displayed now will do much to place ocean racing on the highest peak of international sport. The time for timid tinkering is past.

A measurement formula is intended to give a measure of the speed of a yacht, so that she may be given a certain rating. If two yachts are of equal rating they race on equal terms; if they are of different rating one gives the other a handicap, usually in accordance with a standard time allowance table. In racing yachts, which are divided into numerous classes of somewhat similar size and type, the principal factors which affect speed — length, sail area, displacement and form — are more or less restricted. Where these factors vary, and each variation in some way affects speed, it is obvious that even a rather complicated formula can be only an approximate measure of the speed of each yacht. Therefore we have yachts of equal rating but of different speed.

The primary purpose of a racing yacht is to sail around short courses, usually close to shore in comparatively sheltered waters. The principal use of a cruising yacht is to cruise, often for long distances on open waters. It is evident that no one yacht can possibly fill to the utmost the requirements of both of these services. In a racing yacht speed is the principal objective, subject to some consideration for seaworthiness and substantial construction. In a cruising yacht speed is desirable, but only in conjunction with seaworthiness, safety, roominess, comfort, ease of handling, etc. Factors which are of great importance in one service are of minor value in the other. It should be quite clear that a successful measurement formula for racing yachts is not suitable for cruising craft.

In drafting a rule for cruising yachts a distinction should be made between racing and cruising types. The formula, while not favoring any particular type of cruising yacht, should positively encourage those factors which produce a real cruising craft rather than a racing yacht. There is more actual difference between the two types than appears evident to the casual observer, and yet it is often difficult to draw a sharp line between them. For this reason racing type yachts have sailed against cruising yachts in most of our long distance races, although these were intended for cruising yachts only. I do not criticize the owner or designer of such a yacht for taking advantage of the rules, but this situation emphasizes the need of strict regulation. Also, it answers those well-meaning but shortsighted yachtsmen who say that there are too many rules, "too much that is technical," and "too much tendency for financial advantage to outweigh the hard-won experience of good seamanship." Of course, we do not want too many rules, and what rules are necessary should be kept as simple as possible, but there must be some rules, and to be of lasting value they must be *good* rules.

What, then, should the rules aim to do? Let us read the general conditions outlined for the last Bermuda race:

"In order to encourage the designing, building and sailing of small seaworthy yachts, to make popular cruising upon deep water, to develop in the amateur sailor a love of true seamanship and to give opportunity to become proficient in the art of navigation, an ocean race is scheduled for 1930 from New London, Conn., to Bermuda, under the auspices of the Cruising Club of America and the Royal Bermuda Yacht Club.

"In drawing the conditions of this race, the committee has borne in mind that the object of the race is primarily to furnish a test of yachts of cruising type, qualified for offshore cruising and racing. Yachts must be of a thoroughly seaworthy type, strongly built and rigged, properly ballasted, with closed cabins and watertight cockpits. The combined length of the fore and aft overhangs must not exceed one-third of the yacht's overall measurement. . . ."

From a careful reading of the above conditions one gathers that the committee desired to accept the entry of cruising yachts only. With the exception of the limitation on the length of the overhangs, there are, however, no definite limits imposed which might distinguish

between a racing and a cruising yacht. "Thoroughly seaworthy type, strongly built and rigged, properly ballasted, with closed cabins and watertight cockpits" may be applied to either type. The power to interpret the rules and conditions governing the race, to decide protests, and to reject the entry of any yacht which in their opinion does not comply with the letter or spirit of the rules and conditions rests with the race committee, from whose decision there shall be no appeal.

In other words, the race committee must decide whether a yacht is of cruising or racing type. Nothing in these conditions will inform an owner whether his yacht is eligible or not. I say "nothing" advisedly, for there is no definition of what constitutes a "cruising type," and the descriptive terms used are relative. If you want to start a red hot argument, just ask any two, or twenty, yachtsmen to define "a seaworthy type of yacht."

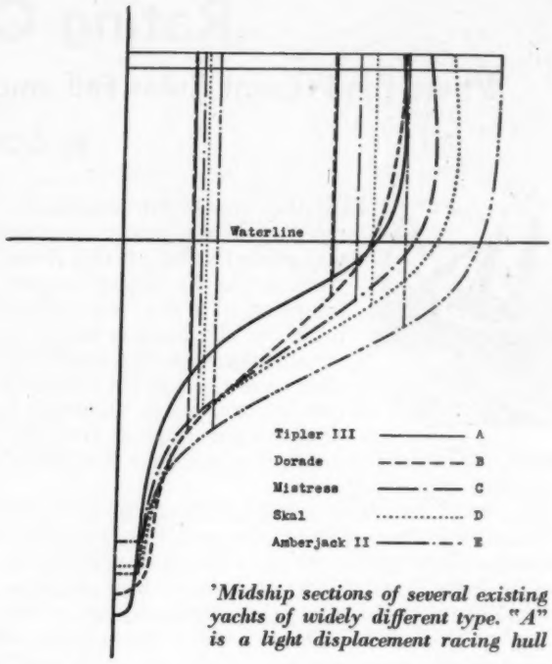
If the general conditions and rules of a cruising race are loosely drawn it may be that the measurement formula itself will take care of the situation, and by its rating discourage the entry of a racing yacht. However, if the general conditions and rules do not prohibit, and the measurement formula actually encourages a racing type, it would indeed be surprising if advantage were not taken of this situation.

The remedy is a set of conditions which will definitely regulate the type of yacht eligible to enter, and a good measurement formula which will encourage cruising rather than racing types. As the subject now is a measurement formula, I shall not go deeply into the question of conditions, except to say I believe that the recent ruling of the committee handling the 1932 Bermuda race, barring yachts whose ratio of ballast to displacement is greater than 46 per cent, is a misguided attempt to handle the situation. It is an unjust discrimination against certain yachts which are more able, stronger and safer than some others which are not barred by this regulation. The ratio of ballast to displacement varies greatly in different types, and somewhat in different sizes of yachts. It is fundamentally wrong to exclude from competition through a technicality a yacht which for sixteen years has demonstrated its seaworthiness and competence as a cruiser.

Mr. Herbert L. Stone, in November, 1931, YACHTING, has outlined the changes that have been made in the rating rule and method of handicapping since the Bermuda race was revived in 1923. He concludes an interesting article by saying: "In considering a common rating rule for both sides of the Atlantic, it is to be hoped that those framing it will bear in mind that ocean racing is primarily for the cruiser. This does not mean that such boats need be slow, or that speed *per se* should be handicapped, but speed should not be obtained at the sacrifice of the essential qualities of a good cruiser, which include seaworthiness, comfort, ample stowage space for a long voyage, and all 'round ability to take whatever comes. Ocean racing is here to stay. Whatever rules are made should be as simple as possible and fair to the big fleet of existing cruisers."

I thoroughly agree with Mr. Stone. It is not speed, or the factors that make for speed alone that should be measured and rated; consideration should also be given to seaworthiness, roominess, comfort, ease of handling, and other factors.

The present Bermuda Race measurement formula encourages speed and discourages wholesome cruisers. It is not suitable for the rating of cruising yachts because it encourages racing types, excessively narrow, with light displacement and high freeboard. The fact that a limit boat has not yet been built under the rule is beside the point. The only one that has been built to take advantage of the *essential* features of the rule has left an enviable record in the 1931 Transatlantic and Fastnet races. Yet, regardless of her splendid performance, I doubt if one cruising yachtsman out of ten prefers a craft of her type to one of less "racy" proportions. Under the present rule, however, she is of a type which has the best chance of winning.



'Midship sections of several existing yachts of widely different type. "A" is a light displacement racing hull

Mr. Stone has pointed out how the present formula was adopted in 1928. It is a vast improvement over the simple overall measurement previously used, yet it falls far short of being ideal. It was intended to encourage yachts of good displacement and beam, but it actually favors light displacement and narrow beam. The denominator in the equation, written $\sqrt{B \times D}$, in effect is the square root of beam times (mean depth below the waterline plus freeboard plus height of rail). This is a serious weakness. Imagine placing as much value on height of rail, or even freeboard, as upon depth of hull below the waterline. In one of the examples given below, the freeboard plus height of rail makes up 68 per cent of the value of D, leaving only 32 per cent for depth below the waterline. How little this encourages a substantial, seaworthy hull may readily be seen by drawing several 'midship sections and noting how the rating may be kept nearly the same through a wide range of hull types, from that of a beamy, heavy cruiser to a narrow, light displacement racer, using a suitable sail area for each. The extreme racer type might be barred by the committee as not meeting the letter or spirit of the rule. But the rule should be so drawn that it does not need a decision of the committee to determine the eligibility of any yacht. The present rule creates an unnecessarily awkward situation, for there is a point between racing and cruising types which may readily cause differences of opinion.

It has been said that the present rule has produced some good yachts. There have been some yachts built to rate well under the rule whose designers have not taken advantage of the rule as far as speed is concerned. This probably shows a commendable preference on their part for the more wholesome type of cruiser, although it is hardly consistent to work the length factor of the rule

to the point of ugliness (and probable loss of speed) and at the same time ignore the essential factors of the rule which make for speed.

To illustrate the type of yacht that the present rule encourages, let us examine the 'midship section of several existing yachts of widely different types. That the comparison may be as direct as possible, these are all drawn proportional to 50 feet waterline, the same freeboard and measured length assumed for each, and no rig allowances made, thus eliminating these variable components from consideration. See Fig. I, drawing of 'midship sections, and the following data sheet:

DATA SHEET, BERMUDA RACE RULE

1.	Original Yacht	*Tipler III*	*Dorade*	*Mistress*	*Skäl*	*Amberjack II*	Remarks
2.	Proportional 50′ WL Yacht.....	A	B	C	D	E	
3.	B or Beam.....	13.90	13.75	15.50	16.50	18.60	
4.	D or Depth.....	6.78	7.73	7.50	7.55	8.05	
5.	$\sqrt{B \times D}$	9.71	10.30	10.80	11.15	12.20	
6.	Bermuda Rule Rating.....	56.8	53.6	51.1	49.5	45.2	L=58.0′ SA=47.6
7.	Proportional Sail Area.....	1492	1926	2126	2266	2353	
8.	$\sqrt{\text{Proportional Sail Area}}$ ...	38.6	43.9	46.1	47.6	48.5	
9.	Bermuda Rule Rating.....	46.1	49.5	49.5	49.5	46.1	L=58.0 SA as col. 7 and 8
10.	Displacement.....	25.7	35.6	43.5	....	50.0	Long tons
11.	$\frac{\text{Sail Area}}{\text{Displacement}}$	58.0	54.0	48.8	....	47.6	Sq. ft. of SA per ton Disp.

"Tipler III," a 30-square-metre racer

Using the same sail area for each (proportional to that of *Skäl*), it will be seen that the wide, heavy yacht *E* has the lowest rating (45.2) and the narrow, light displacement yacht *A* the highest rating (56.8), with the others in between showing a similar trend. This would seem to indicate that the rule encouraged the heavy, beamy cruiser and penalized the lean racer, until we consider the relative values for sail area as compared with the actual areas of the original yachts. When sail areas in proportion to those of the original yachts are used, yachts *B*, *C* and *D* rate exactly alike (49.5), while yachts *A* and *E* each rate 46.1.

This, in a nutshell, shows the working of the present rule: the extreme racing type yacht *Tipler III* rates the same as the extremely heavy, beamy *Amberjack II*, and both rate about 7 per cent less than *Dorade*, *Mistress* or *Skäl*, if all are built to a common length and slight adjustments made to their sheer lines amidships. On this basis *Tipler III* would have 22 per cent more sail per ton of displacement than *Amberjack II*. Besides this advantage, the racing type of yacht is of superior form, so that she is a much faster craft than the heavier cruisers. What type of yacht, then, does this rule encourage?

To remedy this situation there have been proposed at least three new measurement formulae. The first has the same fault that the present rule has in regard to the type of yacht which it encourages; in fact, it is even more lenient to the racing type and more severe on the cruising type. This alone makes it unfit for rating cruising yachts. The second formula, proposed by the writer, is much more suitable, because, while it is fair to existing cruisers, it encourages wholesome new cruising yachts and penalizes racing craft. I believe that the same result, however, can be obtained in a more direct way, of which I shall speak shortly. The third proposal is a modification of the Universal Rule, using displacement as the denominator. I have already pointed out that a successful rule for racing yachts cannot be satisfactory for cruising yachts. This is true of the third rule proposed, as it encourages lean racing yachts rather than normal, wholesome cruisers. This rule, therefore, is, to my mind, not suitable.

As a solution of the problem I now propose the following formula:

$$\text{Rating} = \frac{L + \sqrt{SA}}{1.5} - B - D \pm E$$

(The full rule proposed will be found at the end of this article.)

This is a simple rule, for it adds length and sail area, the two factors which make for speed, and subtracts beam and depth, two factors which retard speed. *E* is a

"Amberjack," a wide, full displacement cruiser which was in the Transatlantic Race last year

penalty for excessive draft or a small bonus for light draft, within certain limits. Besides being simple, this has the advantage of being an addition rule, and if experience makes it desirable to modify any one factor it can be done directly without affecting other factors. The values given the different factors encourage a substantial hull with good beam and depth below the waterline. At the same time the designer is given great freedom. This rule does not favor any particular type of cruising yacht nor is it unfair to any real cruiser. It is, however, hard on racing types. Is not this what is desired?

Let us compare the ratings obtained under this rule with those under the present Bermuda race rule, using the same yachts and making the same assumptions as before. The following table gives the data and ratings:

DATA SHEET, MUNRO RULE

1. Original Yacht	*Tipler III*	*Dorade*	*Mistress*	*Skål*	*Amberjack II*	Remarks
2. Proportional 50′ WL Yacht.....	A	B	C	D	E	
3. Length Correction.....	+3.52	+3.82	+0.20	−1.68	−5.88	
4. Rule Length.....	61.52	61.82	58.20	56.32	52.12	
5. √Sail Area.....	38.6	43.9	46.1	47.6	48.5	
6. B or Beam.....	13.90	13.75	15.50	16.50	18.60	
7. D or Depth.....	4.30	5.28	5.06	5.13	5.59	
8. Rating.....	48.55	51.45	48.97	47.65	42.89	

First notice the effect of the beam clause; the length correction is hardly apparent in the normal beam yacht *C*, but the narrow yachts *A* and *B* have their length increased, while the wide yachts *D* and *E* receive a reduction in length as the result of the beam clause. The rating of yacht *C* is nearly the same as under the Bermuda rule; the ratings of the racing type yachts are increased, while the beamy, heavy yachts have a lower rating under this rule. Except for yacht *A*, the yachts are now rated equitably.

Yacht *A* has been included in this comparison to illustrate how an extreme racing type would fare under both rules. The Bermuda race rule encourages her type, and the general conditions do not prohibit it; only an adverse decision of the race committee could prevent her from competing. Yacht *A* is ineligible under my rule because of her light displacement. In order for her to qualify her displacement must be increased from 25.7 tons to at least 33 tons. This would so alter the hull and sail plan then necessary to drive it that she would be of greatly different type.

The proposed rule is fair to both old and new yachts, if of strictly cruising type. It is to be expected that the older yachts will gradually be outbuilt as far as speed is concerned: I believe that a substantial increase in the speed of *all types* of sailing yachts is probable through further development in hull form. Yet the process of outstripping will be slower and the course of the older cruising yachts to oblivion will be longer if they do not have to compete against racing types. Progress should be encouraged; but it should be real progress, and not simply greater speed at the expense of other essential qualities.

The hope has often been expressed that yachtsmen on both sides of the Atlantic might agree on a common rating rule. This has already been partially accomplished in the racing branch through the adoption by this country of several International Rule classes. The added competition, broadened interest and knowledge, the friendships and good will already resulting from this move should be an incentive for cruising yachtsmen on both sides to get together on a common rule without further delay. There is no reason why a good rule which will encourage wholesome cruising yachts cannot be used on both sides of the ocean. The success of American yachts in the Fastnet race, under severe conditions, would indicate that the generally wider, more roomy type of cruiser favored on this side is not unsuited to conditions elsewhere. The great freedom allowed under the rule now proposed makes possible development along lines to suit any locality.

It is my earnest desire that this criticism of the present rule and the suggested remedy may arouse all yachtsmen concerned with this branch of the sport to take an active interest in the problem, to the end that a suitable, permanent rule may be adopted, both here and abroad. There is no personal criticism intended in anything I have written. The well-known yachts used to illustrate my thesis were selected for their wide range of type and because their particulars were readily available.

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RATING RULE FOR OCEAN RACES
PROPOSED BY GORDON MUNRO

$$\text{Rating} = \frac{L+\sqrt{SA}}{1.5} - B - D \pm E$$

L = Length measured parallel to the waterline between a point on the forward profile 4% of the waterline length above the waterline and a point on the after profile 2% of the waterline length above the waterline.

S A = Sail area as measured under N.A.Y.R.U. Universal Rule.

$B = \text{Beam} = \frac{\text{Maximum beam} + \text{waterline beam}}{2}$ taken at section of greatest beam, as measured (see beam limit).

$D = \text{Depth} = \frac{D1+D2+F}{2} + \frac{H}{4}$ where D1 = vertical distance from waterline to outside of planking measured at 25% of $\frac{B}{2}$ from centerline; *D2* = vertical distance from waterline to outside of planking measured at 75% of $\frac{B}{2}$ from centerline, and *F* = freeboard from waterline to top of deck at side, measured at:

$$\frac{\text{Fw'd. end w.l.} + \text{middle w.l.} + \text{after end w.l.}}{3}$$

H = height of rail from top of deck at side to top of rail cap measured at section of greatest beam.

E = Penalty for excessive draft or bonus for light draft (see draft limit).

Overhangs. The combined length of the fore and aft overhangs must not exceed one-third of the yacht's overall measurement.

Displacement. The displacement in cubic feet must not be less than $(0.20 \text{ L W L [in feet]} + 0.5)^3$

Draft. The draft limit in feet shall be 16% of L.W.L.+1.75. Should the draft be more than this limit, any excess, exclusive of centerboard, shall be multiplied by 3 and added to the rating. Should the draft be less than the draft limit, the difference between the actual draft, exclusive of centerboard, and the draft limit shall be divided by 3 and subtracted from the rating.

Beam. The beam limit in feet shall be 27% of the measured length. Should the maximum beam, as measured, be less than this limit, the difference between the actual beam and the beam limit shall be multiplied by 2 and added to the measured length. Should the maximum beam, as measured, be greater than the beam limit, the difference between the actual beam and the beam limit shall be multiplied by 2 and subtracted from the measured length.

Mast height. In single-masted yachts the distance from the deck at the after side of the mast to the top of upper halliard sheave shall not exceed $1.6\sqrt{SA} + 30\frac{B}{L}$

In yachts with more than one mast the limit shall vary between $1.6\sqrt{SA} + 30\frac{B}{L}$ and $1.3\sqrt{SA} + 30\frac{B}{L}$ as the percentages of measurement for the different rigs vary.

Should this limit be exceeded, the excess shall be multiplied by three and added to the perpendicular (P) in computing the sail area.

The Canada's Cup

Some High Spots in the History of a Famous Trophy

By C. H. J. SNIDER

THERE has been much good racing for the Canada's Cup since that freshwater classic came into being in 1896, and the valor has not all been on one side.

The cup is being raced for again, at Rochester, on Lake Ontario, in the first week of August, the Royal Canadian Yacht Club of Toronto again being the challenger, and the Rochester Yacht Club the defender. This is the eighth contest for the cup. Canadians have, as challengers, tried for it five times and won it twice. Americans have twice been successful challengers and have defended it successfully three times.

"Invader II," probable challenger for the Canada's Cup. She is from designs by Fife

At this time of writing the contest shapes up into a duel between *Thisbe*, the Rochester Yacht Club's defender of 1930, designed by Clinton H. Crane in the preceding year, and *Invader II*, a new challenger for the Royal Canadian Yacht Club, designed, built and equipped by Wm. Fife of Fairlie, Scotland. Fife designed the original *Canada*, which won the cup against *Vencedor*, at Toledo, in 1896, and he has since contributed four aspirants for the trophy. But *Invader II* is the first out-and-out "Fifer" to make a bid for the cup. The others were built from his designs in Canada, or planked and finished in Canada after framing in Scotland.

It is, of course, no foregone conclusion that the finals for the cup will be between *Thisbe* and *Invader II*. *Thisbe* came from behind in the Rochester trial races of 1930, and was established as the logical choice by W. P. Barrows' helmsmanship and her own good performance. There is nothing to prevent another Rochester yacht doing the same thing in 1932. Mr. Barrows has sold *Thisbe* to a corporation in his club, and it has been announced that he does not plan to race this year. *Cayuga*, a very promising candidate of 1930, has been on the market to close the estate of her late owner, Commodore Thomas B. Pritchard, who died last winter. *Conewago*, the third Rochester cup-hunter of 1930, is now in the hands of Messrs. W. V. Castle and A. B. Eastwood, and "Rooney" Castle's reputation as a skipper is high.

On the other shore *Invader II*, while financed by a syndicate of Royal Canadian Yacht Club members for the specific purpose of racing for the Canada's Cup, has no royal road towards selection. She will have to win the honor by proving herself a better boat than *Norseman*, *Vision*, and *Quest*. These three are now owned, respectively, by Messrs. Kenneth Slater, R. G. O. Thomson, and R. C. Davison, and they will battle to a finish. *Invader* has, however, the advantage of the development of Fife's ideas on eight-metres, improved by two Seawanhaka Cup contests in which his designs were successful; and she has, since arrival last August in Canada, been in the hands of Vice-Commodore Norman R. Gooderham, of the Royal Canadian Yacht Club, who has the time and skill to bring the utmost out of any candidate. She has been sailed assiduously, and shows great form.

Invader II cannot be disposed of as a mere improvement upon *Quest*. In her Fife has embodied new ideas. She is considerably narrower than *Quest*, going very little over 8 feet. *Quest's* beam is 8 feet 9½ inches. *Invader II* is, however, slightly wider than *Thisbe*, whose maximum beam is 7 feet 11 inches. She has more displacement than *Quest* by almost a ton, weighing close on 18,000 pounds, as does *Thisbe*. The pronounced tumble-home of her sides increases her impression of slimness.

But we started out to talk about the good racing there has been for this piece of silverware now engaging the attention of *Thisbe* and *Invader II*.

Æmilius Jarvis, who won the cup twice for Canada and defended it twice and tried for it a fifth time, tells this story of his battle with Charles G. Davis, at Toronto, in 1899.

Jarvis was defending the cup with an undercanvassed little keel sloop named *Beaver*, a witch in a breeze but not so good otherwise. "Charlie" Davis came up from New York to sail *Genesee* for the Rochester Yacht Club, which was challenging. *Genesee* was a splendid Hanley centerboarder, drawing not more than two feet with her board up; she is still going strong on the Detroit River. In the light weather which prevailed in the three cup races at Toronto in 1899 she was distinctly the better boat.

In the second race, to windward and return, *Genesee* crept out from under *Beaver's* lee, outfooted her tack for tack, and rounded the weather mark one minute and 19

seconds in the lead. To the surprise of most observers, the deep-draft keel boat then steadily gained on the skimming dish, and before long was blanketing her. When both sat bolt upright *Beaver's* slim hull — she was 9 feet 6 inches beam — was an easier body to push through the water than *Genesee's* flat, shoal shape, for the centerboarder was 11 feet 8 inches wide. So, in the light air, *Beaver* came up, inch by inch, with the evident intention of luffing *Genesee* off the course and getting between her and the mark at the proper time. But, as Jarvis himself says:

"*Genesee's* skipper was not easily caught napping, and the result of the first luffing match was to leave them still in about the same relative positions, the *Beaver* a few lengths behind. When nearing the finish line the *Beaver* again made an attempt to luff the *Genesee* off, and this time it looked as if the maneuver was going to be successful.

"Both had been coming down before the wind with booms to starboard. The *Beaver* jibed her boom over to port, thus putting her on the starboard tack, and headed for the lee end of the line. This, if it had not been for the resource of the *Genesee's* skipper, would have blanketed her and caused her to jibe close to the line, the intention being that, when *Genesee's* way was off, the *Beaver* would jibe back again, and, as she had never taken in her spinnaker (still having it set to leeward) she would have more way, and, with spinnaker and mainsail both drawing, might win on the line.

"But the *Genesee's* skipper here exhibited a most resourceful maneuver, one that has seldom been witnessed. Seeing his rival's object, and that he would be forced to jibe, he promptly had the turnbuckles of his lee main rigging unscrewed. This allowed him to let his main boom go right forward, at the same time hauling his spinnaker boom aft, a reversal of the ordinary conditions. This successfully staved off the *Beaver's* maneuver and the necessity for the jibe which might have given her the race, and in consequence *Genesee* crossed the finish line with a short lead."

That was that; and it meant, in the end, the Canada's Cup going to Rochester.

Jarvis "worked the oracle" to better effect in a later battle for the Canada's Cup, after he had brought it home from Chicago with that *Invader* which is commemorated in the name of the newest challenger, *Invader II*. The first *Invader*, by the way, was of extreme semi-fin type, fast in light airs but indifferent in a blow. Her opponent was *Cadillac*, a successor to *Genesee*, and, like her, a centerboarder. We had the curious spectacle in this contest of skimming-dish sailors praying for a blow and the keel clan hoping for calms and drifting matches.

After the cup came back Jarvis had to defend it with the keel cutter *Strathcona* against the keel cutter *Irondequoit*, of Rochester. This was at Toronto in 1903. Both candidates were grand little craft of 40-foot waterline, but *Strathcona* needed a hollow mast, like that of her rival.

Irondequoit was sailed in the first races by Captain James Barr, who was a nephew of the redoubtable Charlie, but had not inherited all of his uncle's skill. In fresh going *Irondequoit* (she was a Gardner design) undoubtedly had the legs of *Strathcona*, but Jarvis hung on to her, first by getting the jump on the starboard tack and forcing her about; then by bluffing her into a false tack. Even so, on the reach in the succeeding leg of the course, *Irondequoit* sailed around her rival. Coming home before the wind, however, Jarvis luffed *Irondequoit* to the outside of the course, until both were reaching for the finish, and shifted spinnakers for balloon jibtopsails. Jarvis slipped *Strathcona's* spinnaker boom over to leeward, jibed suddenly, sailed right across *Irondequoit's* stern, set his spinnaker, and, having the shorter distance to go to the finish, got the gun with 22 seconds to spare. In another half minute *Irondequoit* would have again taken the lead.

This race, and the one following, won by *Strathcona* in light weather by a 10-minute margin, severely jolted the challengers' confidence in their professional. "Billy" Gardner was insistent that *Irondequoit* was fast enough to eat *Strathcona* five days in the week, and he was right. On his advice her owners wired overnight to the late Addison Hanan, who had sailed her on Long Island Sound during the spring, before her delivery to the Rochester syndicate. Grabbing his brother Wilbur and two toothbrushes, Addison Hanan caught the night train for Toronto. The yachts had left their moorings in the harbor for the starting line out in the lake when the train pulled in next morning. The two Hanans jumped into a launch and caught the *Irondequoit* just outside the Eastern Gap. Neither of them had ever sailed on Lake Ontario before; in fact, they had never seen it, except from train windows. By downright skill, and one little bit of luck in being able to sail around *Strathcona* and avoid the soft spot which held her, Addison Hanan peeled off three victories in succession, after *Irondequoit* had been beaten twice; and so the cup again traveled to Rochester.

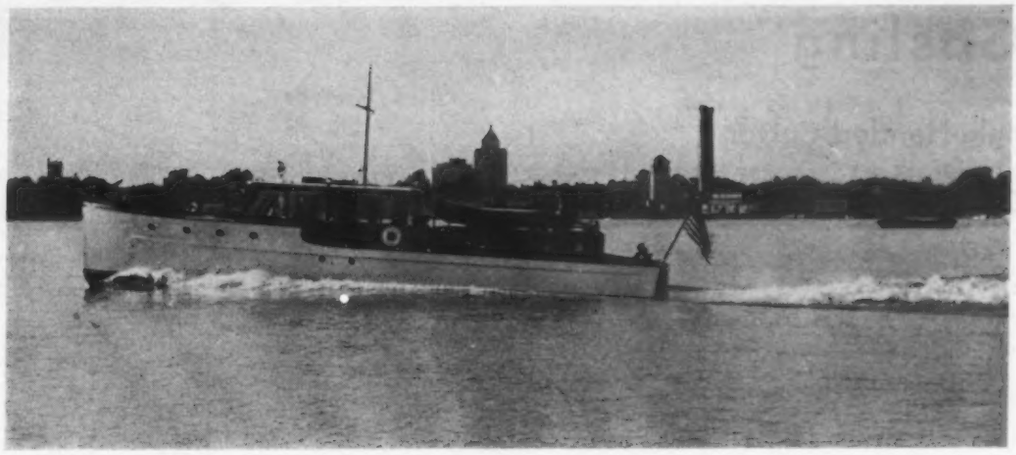
It is satisfactory to know that, far from bitterness developing over the sudden reversal in fortunes, Æmilius Jarvis and Addison Hanan eventually became fast friends. Hanan sailed *Seneca* for Rochester in 1907, and Jarvis sailed *Adele*, for the Royal Canadian Yacht Club. If *Strathcona* was handicapped by a solid mast, *Adele* was handicapped by everything else. Money had been lavished on her, she was Jarvis' own choice of the Canada's Cup candidates, but this Payne-designed 30-footer — she was the late A. E. Payne's last effort from Southampton, England — was no match for the lean plough-share bowed *Seneca* of N. G. Herreshoff.

Hanan had no difficulty in establishing a weather berth before the start of the first race, but found to his dismay that Jarvis had a trick to counter it. Again and again the two yachts came about, with *Seneca* always to windward, but *Adele* vigilantly patrolling the line, so that *Seneca* was always on the wrong side of it.

"I have the weather berth on this chap," said Addison Hanan to his brother Wilbur, "but I don't see what good it is going to do me, for he won't let me start!"

In the last minute before gunfire both yachts steered along the line, heading for the committee boat *Navajo* which formed one end of it. They were on the starboard tack, *Adele* just outside the line, *Seneca* still farther out, traveling fast and opening water between her counter and *Adele's* bowsprit. To avoid being carried past the committee boat before gunfire, Hanan swung *Seneca* back and forth, and as the Canadian yacht continued a straight course her horn ran across *Seneca's* counter. Billy Miller, in the cockpit, leaped up and seized the spar to shove her off. They carried on right up to the committee boat, and *Seneca*, on the outside, had to sail on past the *Navajo*, jibe over, sail around her, and come up to the line under her stern. *Adele's* helm was put hard up at gunfire, and she jibed over just clear of the *Navajo*, hauled up on the port tack, and crossed the line with a lead of 60 seconds.

That was the only "lead" she had in the race, for *Seneca* hoed her down in short order and won this race, and every one in the series.



"Altometh"

A New 56-Foot Cruiser

+ + +

"Altometh" was designed for T. A. Green, of Birmingham, Michigan, by John L. Hacker and was built at the Benjamin Huskins Boat Works. Her trim lines are suggestive of the good speed of 19 m.p.h. at which she steps along. The interior is warmly decorated and comfortably arranged for long cruises. The deckhouse with its wide windows gives the helmsman a broad view on three sides of the cruiser and provides a spacious and well lighted lounging room. "Altometh" is powered with a pair of Sterling Petrel engines

Rosenfeld Photos

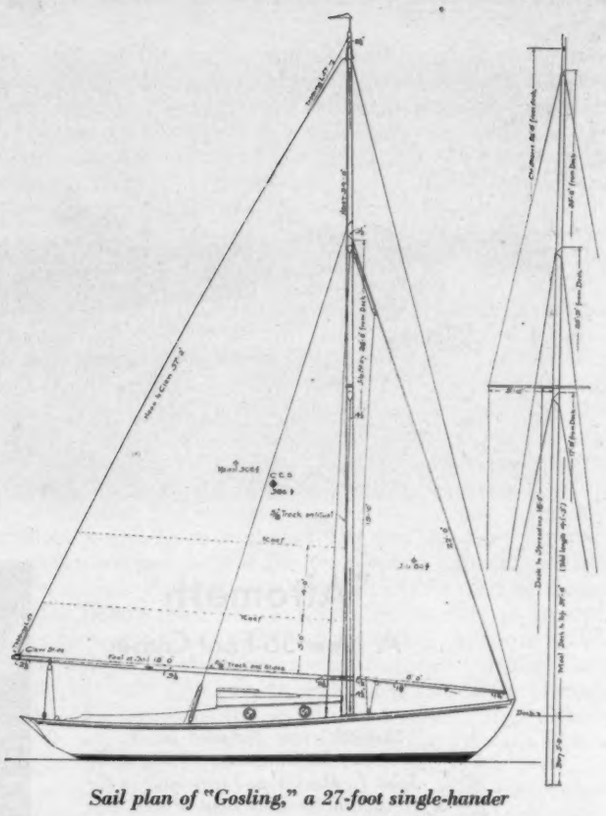
"Gosling"

A Single-Handed Cutter

27 Feet in Length

By

C. D. MOWER



Sail plan of "Gosling," a 27-foot single-hander

GOSLING has been designed to meet the demand for a small boat that can be used either for cruising or afternoon sailing and at the same time one that can be built for a reasonable figure and maintained at small expense. These two items take on added importance at this time of economic readjustment. She is a boat for the man who must count the cost.

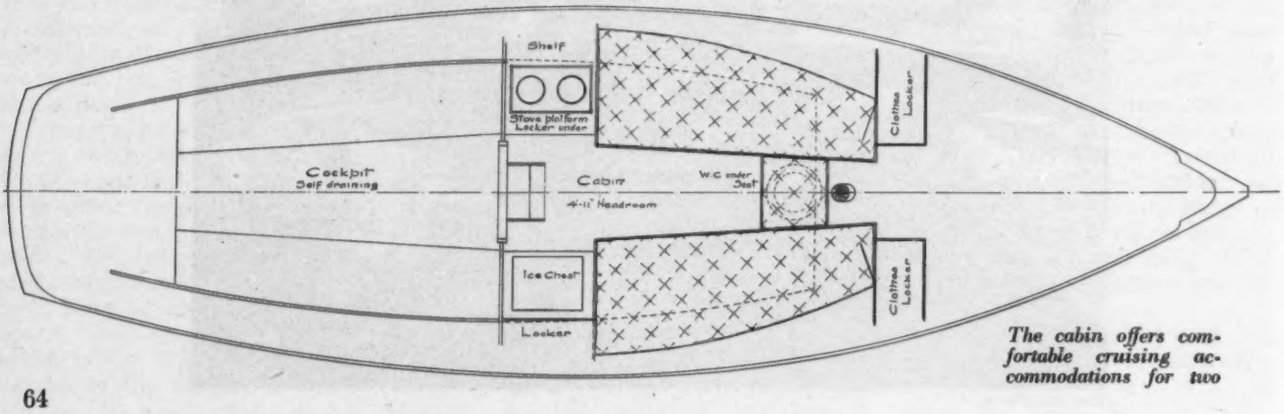
In design of hull *Gosling* is almost an exact reproduction of her larger sister, *Duckling*, which has twice won the Cape May Ocean race and has both cruised and raced to Bermuda, so that there can be no question as to her satisfactory performance as a sea boat or as to her having a good turn of speed. Her overhangs are short but shapely, and her fine waterlines forward will make her take kindly to a head sea and rough water. Her generous area of lateral plane will make her "hold on" to windward, even with her limited draft of 4 feet 6 inches, and will make her an easy boat to steer under all conditions of wind and weather.

The sail plan is moderate in area but is sufficient for average summer winds and is "all inboard" for ease of handling.

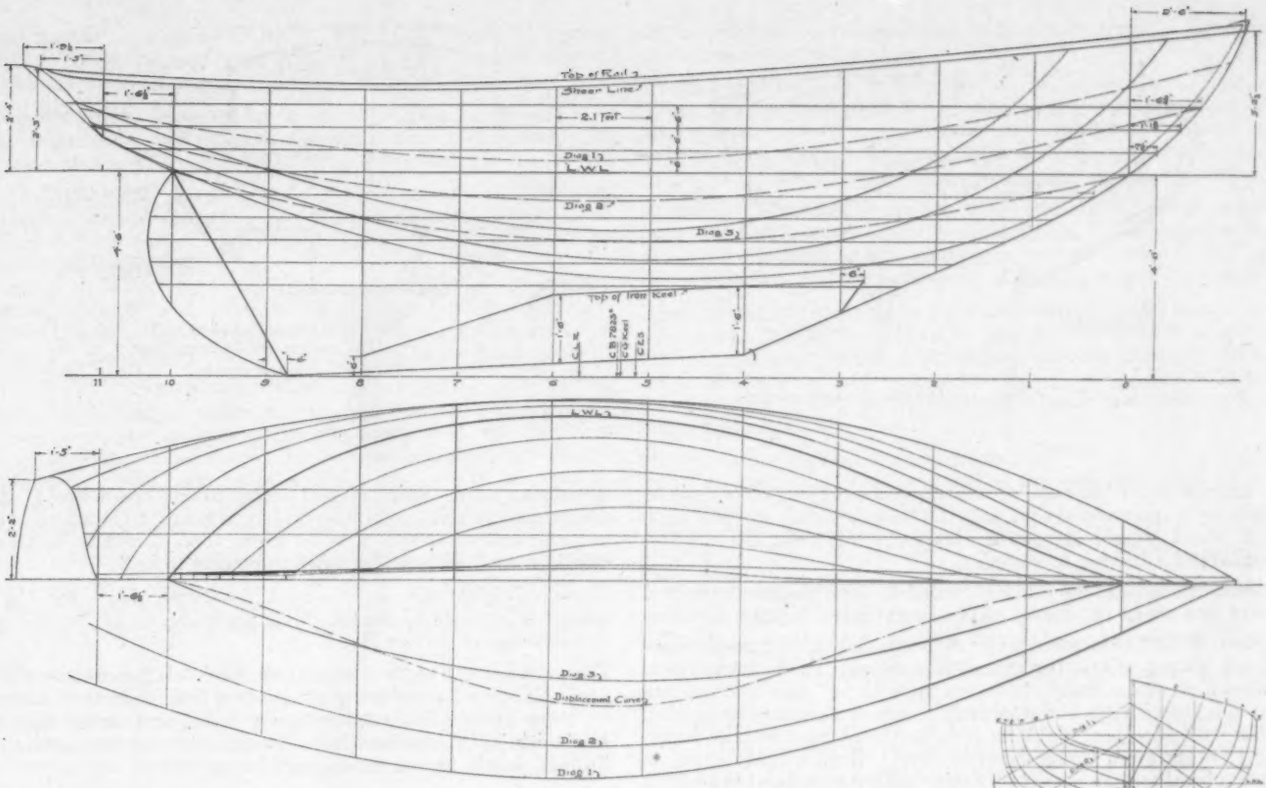
The cabin accommodations are sufficient for two persons to cruise comfortably, with suitable facilities for cooking, storage of supplies and lockers for the necessary clothing. The cockpit has been made as large as possible for comfortable day sailing, with side seats that can be removed if desired. It is seven feet long, so that it is possible to sleep out in the open or under an awning.

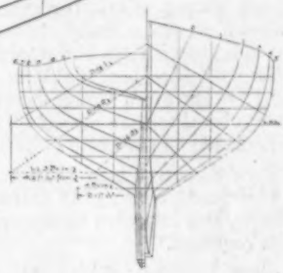
The installation of auxiliary power has not been shown on the drawings, but there are a number of marine motors of size and power suitable for a boat of this size. If a motor is installed it should be located under the forward end of the cockpit, the cockpit floor being raised if necessary and fitted with a hatch to give access to the motor. The motor should be set slightly off center, with the shaft carried out on the port side, clear of the deadwood and fitted with a feathering propeller. It is not advisable to cut an opening in the deadwood and rudder if good sailing qualities are to be preserved. Fuel tanks should be placed under the decks on either side of the cockpit, and fitted with gas-tight connections to filling plates in the deck. If first cost is a consideration, the boat can be built without a motor, leaving this to be installed the second year. If this is done, the cockpit floor should be raised in the first instance, to facilitate the work the second year.

The construction, as specified, is amply heavy to give a strong, serviceable hull that will stand hard service and last for many years with reasonably good care, and it is not necessary nor advisable to increase the sizes of scantlings specified. For those who may want to build the boat, the specifications are given, and the table of offsets is included in the plans, which are complete in themselves.



The cabin offers comfortable cruising accommodations for two

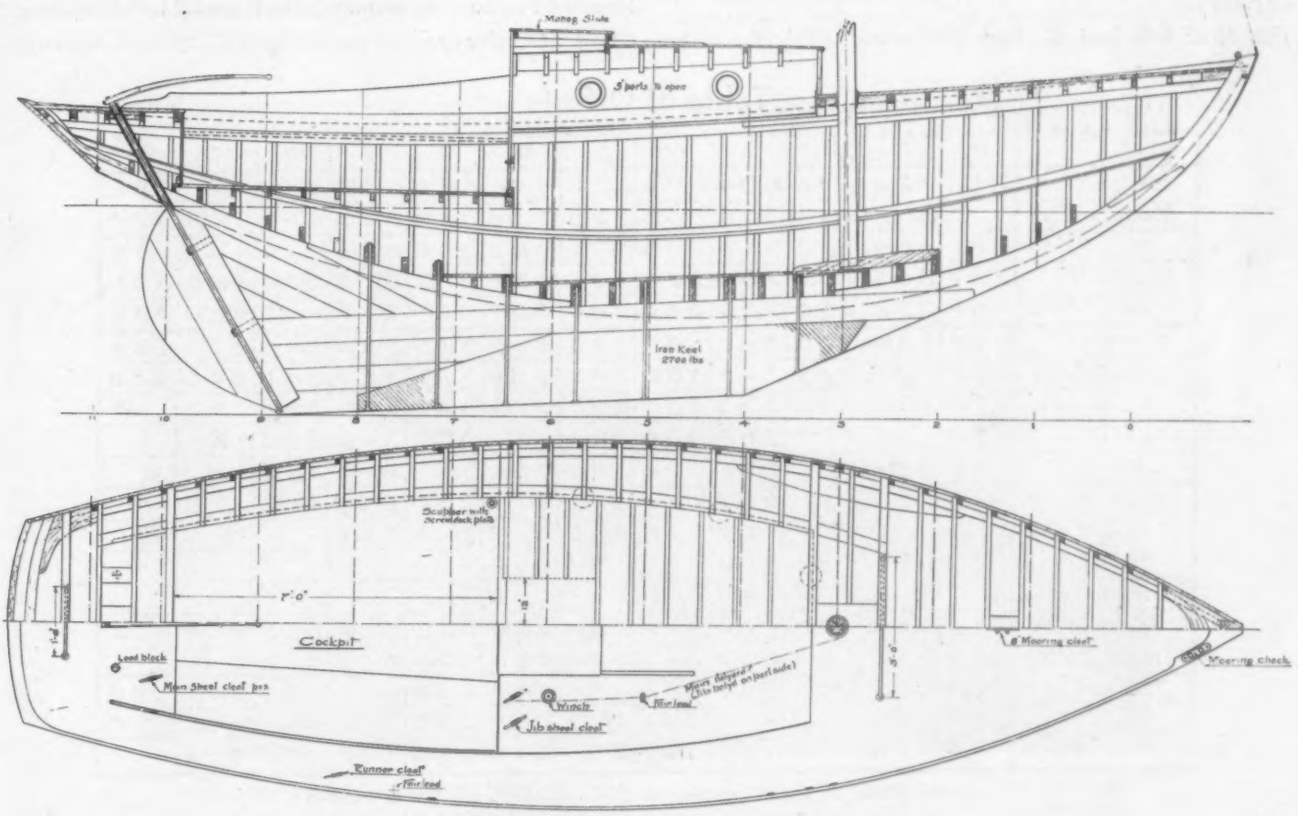


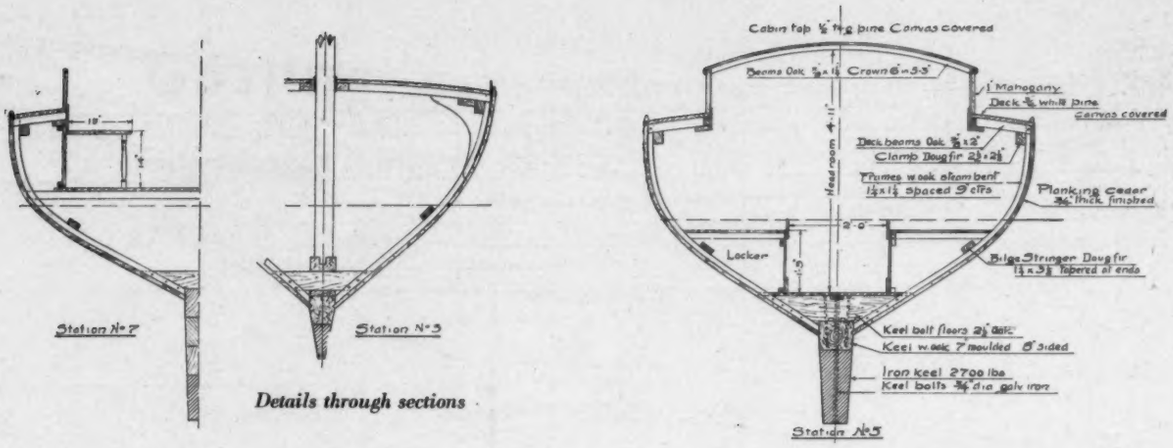


The Specifications

Dimensions: Length over all	26	feet	10	inches
" l.w.l.	21	"	0	"
Beam, extreme	8	"	0	"
Draft, extreme	4	"	6	"
Headroom	4	"	11	"

Lines, body plan, and outboard profile of "Cosling." The overhangs are short but shapely, and the fine waterlines forward should make for steady going in rough water




Station No 7
Station No 3
Cabin top ½" th. pine Canvas covered
Beams Oak 3/4 x 1½ Crown 6" in 3'-3"
1" Mahogany
Deck ⅝" white pine
Canvas covered
Deck beams Oak ¾ x 2"
Clamp Douglas fir 2½ x 2½
Frames white oak steam bent
1½ x 1¼ spaced 9" ctrs
Planking Cedar
¾" thick finished
Head room 4'-11"
2'-0"
Locker
Bilge Stringer Douglas fir
1½ x 3½ Tapered at ends
Keel bolt floors 2½" thick
Keel white oak 7" moulded 8" sided
Iron keel 2700 lbs
Keel bolts ¾" dia galv iron
Station No 5

Details through sections

Materials and Workmanship: In carrying out these specifications it is to be understood that only the best materials shall be used. All wood should be sound, clear and free from defects and suitable for the use intended.

Keel: White oak, moulded 7"; sided 8" amidships and tapered fore and aft as per drawings. To be rabbeted to take planking.

Stem: White oak, sided 3½" at head. Siding increased below l.w.l. as per offsets for rabbet line siding. To be moulded as shown on plans. Scarfs to be set up with ½" diameter galvanized bolts with nut and washer. The face of stem is to be finished fair with outside of planking. Stem to be rabbeted to take planking. Stopwaters to be fitted in scarfs. Bronze plate fitted to stem head to take headstay. Siding of face of stem at head to be increased as per plans.

Stern Timber: Stern timber, deadwood and sternpost to be of white oak, thoroughly fastened with ½" diameter galvanized bolts, and rabbeted to take planking and fitted with stopwaters as required.

Stern Transom: White oak, steam-bent over form to radius of 12 feet, 1" thick and fitted with oak transom frame to take ends of planking.

Iron Keel: Iron keel of about 2700 pounds. This should be smoothly cast as per plans and bolted to oak keel with ¾" diameter galvanized iron bolts with forged heads; to be set up with nut and washer on top of wood floors. Top of iron to be thoroughly coated with red lead before bolting to keel.

Frames: White oak, steam bent to shape, 1¼" by 1¼", spaced 9", center to center. Midship frame to be located on forward side of station No. 5.

Floor Frames: All to be of white oak. Keel bolt floors to be sided 2½"; all other floors sided 1¼". Heels of frames are to be bolted to floors with 5/16" galvanized screw bolts, and drift-bolted to keel with ⅜" galvanized bolts headed over washers. Suitable limbers should be cut through all floors.

Planking: Of carefully selected white cedar, ¾" thick when finished.

Planking to be single thickness, worked in long lengths and narrow strakes with butts well shifted. Butts to be made on oak block between frames. The planking is fastened with copper nails riveted over burrs; heads to be countersunk and plugged with cedar bungs set in white lead. Seams to be caulked with cotton, payed and filled with white lead putty. Outside of planking should be carefully planed and well sanded before finishing.

Clamps: Douglas fir, in single lengths, 2½" by 2½" amidships

Table of Offsets

	0	1	2	3	4	5	6	7	8	9	10	11
Sheer	7.4.7	7.2.2	611.6	694	6.74	6.57	646	640	637	642	651	661
Buttock 2 Out		6.52	497	3110	352	326	333	362	3113	463	526	594
" 1 "	661	494	382	304	282	270	282	2116	354	412	4100	554
Rabbet	491	362	295	250	224	220	234	273	312	390	465	531
Keel Bottom	460	332	240	150	060	046	034	022	010	0100	460	530
Sheer	146	234	300	360	397	3115	3116	3105	382	343	2113	266
W.L 3 Above	090	193	283	345	392	3115	3116	3105	380	341	2101	236
" 2 "	056	156	252	323	380	3110	3113	3100	373	320	252	1.1.3
" 1 "	030	115	214	2113	360	394	3101	385	346	292	151	
L.W.L	003	096	186	270	324	364	373	351	2111	1110	000	
W.L 1 Below		055	132	212	286	312	314	297	212	092		
" 2 "		016	0100	163	210	247	243	1114	106			
" 3 "			045	0112	147	174	160	102				
" 4 "			007	044	087	0104	080					
Rabbet	016	020	023	030	036	040	036	032	026	020	014	012
Keel Bottom	003	003	003	003	017	030	030	024	016	012		
Diag 1	113	204	2102	362	401	435	444	430	3112	354	2103	240
" 2	080	160	233	2111	344	373	376	354	306	257	186	100
" 3	003	082	134	191	207	224	216	1106	153	097	000	

Stations spaced 2.1 feet (10 stations on 21-foot l.w.l.); w.l.'s spaced 6 inches
Dimensions given in feet, inches, and eighths

and tapered at ends to 2″ by 2″. Bolted to heads of frames with 5/16″ galvanized screw bolts set up with nut and washer. Oak breast hook and quarter knees to be fitted as shown.

Bilge Stringers: Douglas fir, in single lengths, 1¼″ by 3½″, tapered at ends and fastened to frames with No. 14 brass screws driven from inside, one to each frame, staggered.

Deck Beams: Oak, sawn to crown of 4 inches in 8 feet. All beams to be moulded 2″ and sided ⅞″, except mast partner beams and beam at after end of cockpit which are to be sided 2″. To be spaced 9″, as are frames.

Extra shelf 1¼″ by 4″ by 5′ long, to be fitted in way of mast partner beams and edge-bolted through clamp; through-bolted to beams. Beam stringer to take ends of short beams to be 1″ by 3″, Douglas fir. Spruce filling pieces to be fitted between ends of beams.

Deck: White pine, or cedar, ¾″ thick and covered with canvas in one piece, laid in thick white lead paint, well stretched and fastened with copper tacks. To be laid in narrow strips, 1″ wide by ¾″ thick, sprung with side of boat. To be fastened to beams and edge nailed between beams with galvanized nails. Mahogany chock rail to cover edge of canvas on plank sheer.

Cabin Trunk: House side and cockpit coaming to be in one piece of mahogany 1″ thick. To be set on top of deck canvas and to be through-bolted through beams and beam stringer. Edge of canvas to be turned up on inside and covered with mahogany facing piece.

House beams to be of oak, sawn to crown of 6″ in 5′ 3″. Beams to be sided ⅞″ and moulded 1¼″.

House top to be ½″ tongue-and-groove pine covered with No. 10 canvas in one piece, laid in thick white lead paint and fastened with copper tacks. Edge of canvas covered with mahogany moulding.

Mahogany companion slide, as shown. Doors to cockpit to be mahogany with slat panel for ventilation in upper part.

Six, 5″ opening round port lights, sleeve type, to be fitted in cabin trunk — two on each side and two in forward end.

Cockpit: Cockpit floor to be ¾″ tongue-and-groove pine covered with canvas and made watertight. Two lead pipe scuppers to be fitted at forward end, with brass screw deck plates in cockpit floor to prevent water from backing up when sailing.

Cockpit staving to be ½″ tongue-and-groove mahogany set in rabbeted sill on cockpit floor and made watertight. Cockpit seats mahogany, as per plans.

Rudder: Rudder blade to be white oak bolted to 1½″ diameter Tobin bronze rudder stock with bronze bolts. Rudder port of heavy brass pipe threaded through stern timber and extending to deck. Two bronze rudder straps fitted to sternpost and bronze heel bearing. Bronze rudder head and tiller straps. Oak tiller.

Finishing: Deck and cabin top to be painted with buff color deck paint, at least two coats. All bright work to be finished with at least three coats of best grade spar varnish. Inside of hull to be painted two coats of lead paint of color approved by owner.

Spars: Mast and main boom to be solid spars of Sitka spruce, of sizes shown on sail plan. Mast to have ⅝″ track for sail hoist, bronze gooseneck; one set of spreaders; halliard sheave in masthead and bronze shoulder cleats for rigging. Main boom to have ⅝″ track for foot of sail; clew outhaul slide and pad-eye for mainsheet block.

Rigging: Standing rigging to be galvanized plow steel wire rope, 6 by 7 strand, and of sizes specified on sail plan. All splices to be served with fine yacht marline.

Main halliard to be of 3/16″ diameter, 6 by 19 strand flexible galvanized steel wire rope with ⅜″ diameter manila hauling part, spliced in.

Jib halliard to be ⅛″ diameter, 6 by 19 galvanized wire rope with ⅜″ manila hauling part spliced in.

Main sheet, jib sheets, runner tackles to be yacht manila.

Fittings: Turnbuckles to be of bronze, Merriman Bros. Fig. 211, or equal, ⅜″ size.

Chain plates Tobin bronze, 1½″ by ⅛″ by 23″ long.

Sails: Mainsail and jib to be made of good quality American yacht duck of about 7-ounce material.

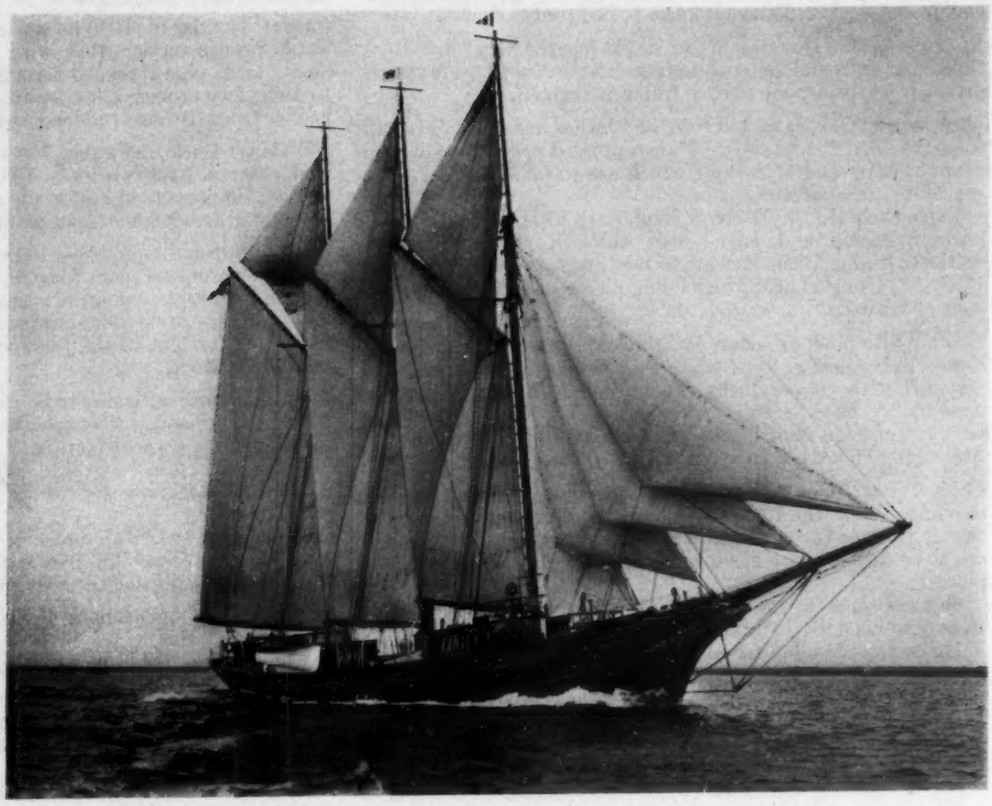
Mainsail to have two reefs as shown on sail plan; ⅝″ slides on luff and foot.

Jib to have ⅝″ slides on foot; snaphooks on luff with jack rope on lower part.

Cabin: Cabin to have seats on either side as shown on plan. Platform for stove with locker space under to be on port side. Built-in ice box on starboard side, as shown, with lockers over. A small size marine yacht toilet to be installed at forward end of cabin, under a hinged seat. Clothes lockers to be built at forward end of seats. Companionway steps to be made of mahogany.

Courtesy Canada Steamship Lines

Murray Bay, Quebec, where the St. Lawrence widens on its way to the sea. The charm of this picturesque river is rapidly becoming better known to American cruising yachtsmen. Looking east from Manoir Richelieu



The three-masted auxiliary schooner "Vema," which made a Transatlantic passage in May of 10 days 21 hours and 5 minutes, from Montauk to the Scilly Islands. While in no sense a record passage for sail, as the motor was used much of the time, it is a most creditable performance. "Vema," formerly the "Hussar," is under charter to George Vetlesen

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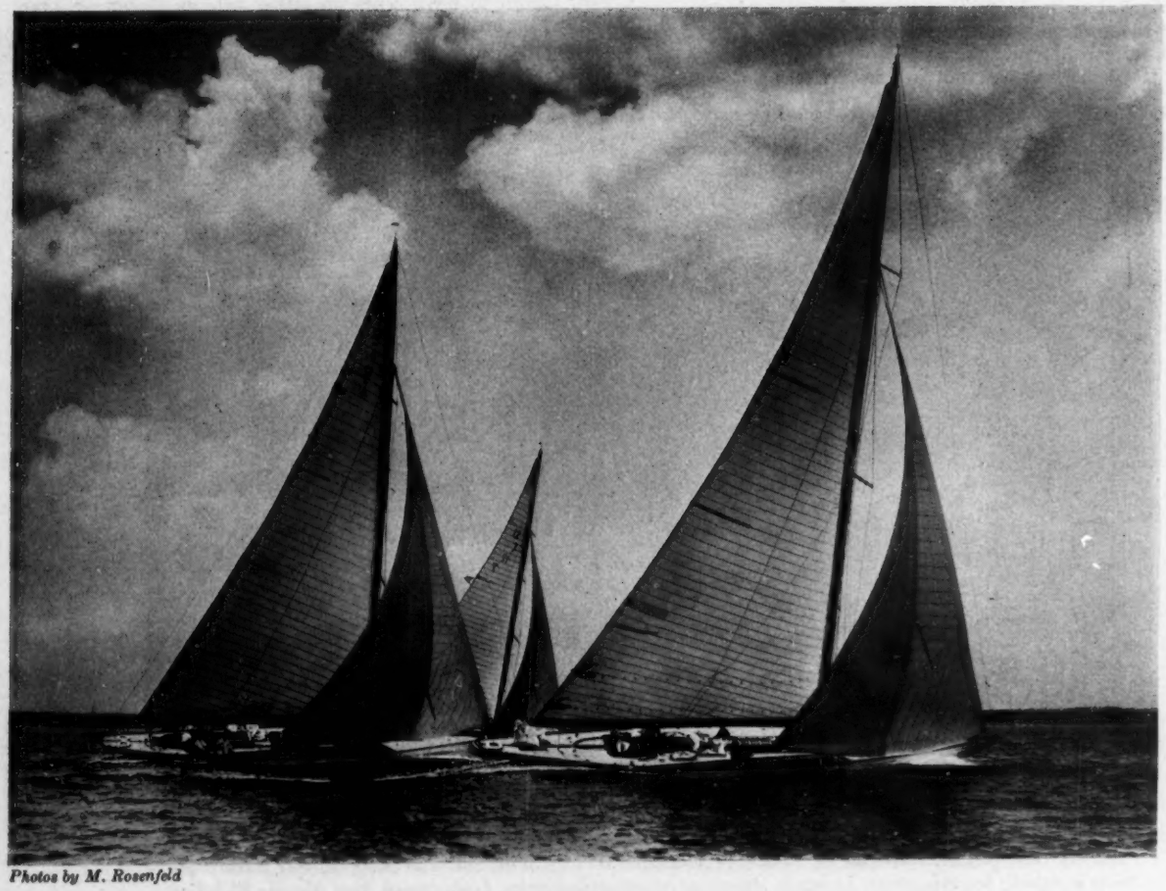
Below. Three of the Twelve-Metres get away to an early season start. Left to right, "Iris," "Cantitoe," and the new British "Twelve" "Mouette"



Photos by M. Rosenfeld

The Month in Yachting

"Snug" Commences Long Cruise

JUST after sunrise on May 14th, Terence Keogh, aboard his little 21-foot cutter, *Snug*, slipped out of Little Harbor, Woods Hole, Mass., into Vineyard Sound, in an attempt to sail around the world in less than two and one-half years.

Without ostentatious preparation for the departure, lacking all efforts for publicity, and with a promise from the one newspaper man who had ferreted out the story of the cruise a week in advance, to hold the copy until he had gotten away, Keogh, the son of the late Judge Martin J. Keogh of New York said goodby to C. O. Iselin, master of the ketch, *Atlantis*, Woods Hole Oceanographic Institution, and was underway in less than five minutes.

Keogh is 26 years old, and for the past 16 years he has spent much time on the water. Preparations for the cruise have been going on for several months, during which the search for a sturdy boat ended in New Bedford, Mass., where the *Snug* was berthed after being sailed from Tampa, Fla., where she was built in 1930. Keogh purchased her a month before he sailed, took her out of the water and had her thoroughly inspected and conditioned. He sailed her from New Bedford to Woods Hole on the first of May, the only trial run he made with her before the attempt to sail around the world, and spent the two weeks before departure in laying in gear and supplies.

The *Snug* is 21 feet l.o.a., beam, 7 feet, draft, 3½ feet, and is very strongly constructed. She is completely decked over except for a cockpit about two by four feet with a depth of twenty inches. The jib-headed cutter rig is well adapted to the hull, and under forestaysail and reefed main she should be able to stand plenty of wind. Keogh estimates that he can make one hundred miles a day, carrying a small trysail at night and letting the boat sail herself.

The course planned will take the *Snug* on the shortest route to the Panama Canal, making the first stop in the West Indies. Then she will sail through the canal and across the Pacific to the Marquesas and Society Islands, the Fiji Islands to the Coral Sea, through the Arafura and the Java Sea, to Surabaya, Sunda Islands. The second leg of the cruise is planned around the Cape of Good Hope. After leaving the Indian Ocean Keogh expects to swing north in the South Atlantic to the Cape Verde Islands, across to the West Indies again, and thence back to Woods Hole.

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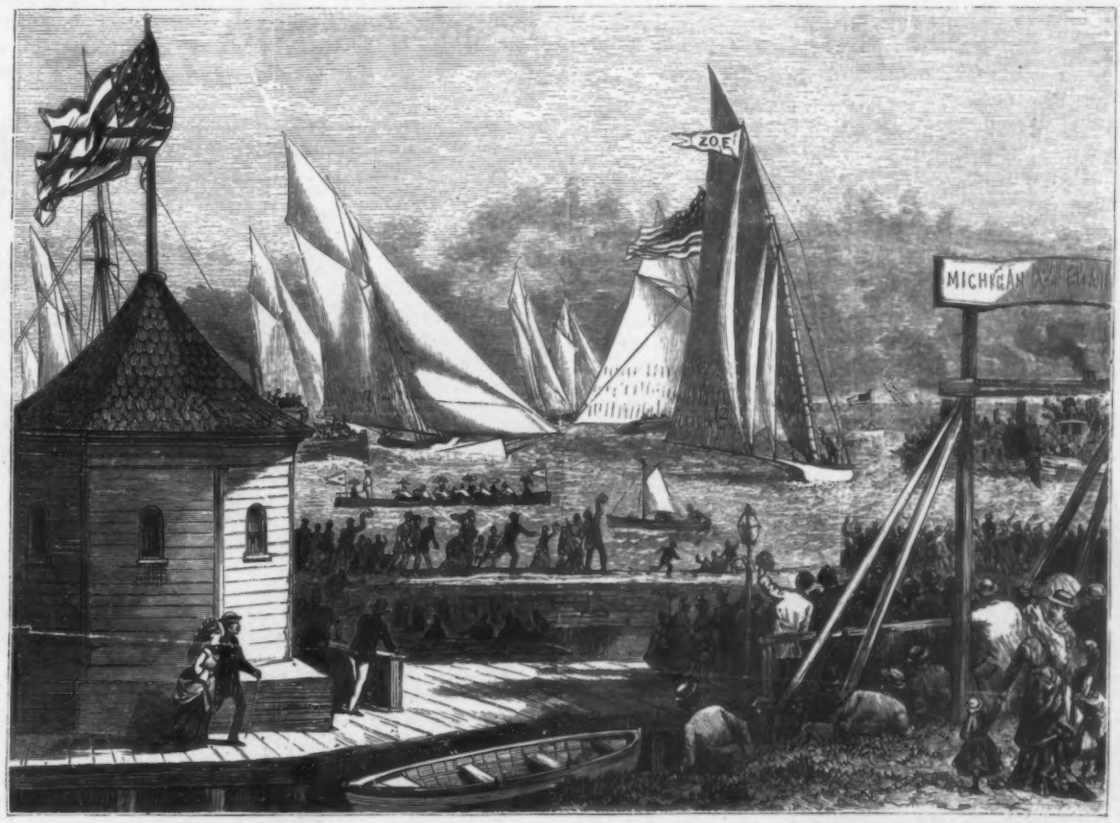
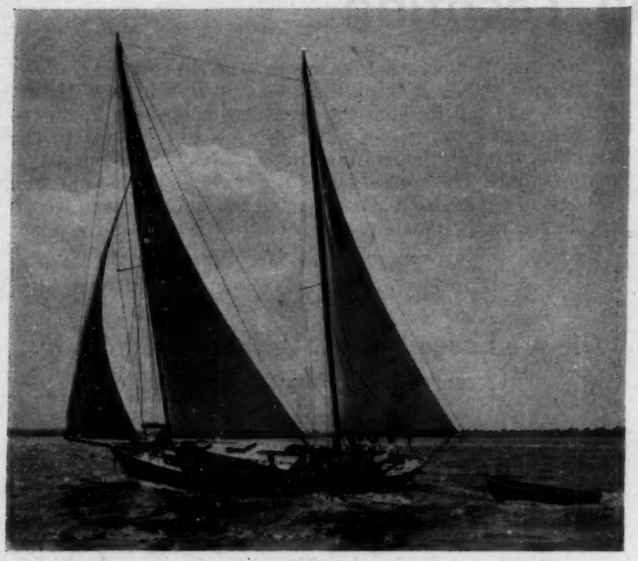
Jeffrey's Ledge Race in Three Classes Won by "Grenadier," "Nancy Lee," and "Highland Light"

THE Jeffrey's Ledge Race on May 28th was divided into three classes, Class A for auxiliaries over 45 feet on deck, Class B for auxiliaries under 45 feet, and Class C for non-auxiliaries. *Grenadier*, owned by Henry and Sherman Morss, sailed a close race with *Spindrift* to win in Class A by two minutes. *Nancy Lee*, Frank Vining Smith's old boat, was well sailed by Donald Scott and took the honors in Class B. There were only three boats in the non-auxiliary class but they staged a good race. *Highland Light*, making fast time over the course, was first boat to finish in all classes and beat *Armida* and *Viking*, the other two boats in the class, by 44 and 58 minutes respectively.

In past Jeffrey's Ledge races the handicaps have been applied at the start, but this year all boats started together and the result proved more satisfactory. The race got underway in light easterly airs which prevailed throughout Saturday,



Yacht race off Chicago, July 18, 1875, from a drawing by Joseph Beale in "Leslie's Weekly" of that year. The race finished off the foot of Twelfth Street, Lake Park, and the sloop "Zoe" is shown coming in after winning. Thirteen boats participated. Then, as now, disputes arose, and because of protests at the start the judges ordered the race resailed the following Saturday



"Marietta," a new 40-foot cruising ketch for Long Island Sound, owned by C. B. Tompkins, of Pelham Manor. Designed by the Casey Boat Building Co., she is powered with a Scripps 4-44 auxiliary motor

finally increasing to a stiff breeze out of the northeast which gave the racers a broad reach home Sunday morning.

The large number of withdrawals were caused by failure to find the Jeffrey's Ledge buoy, which, however, was marked by a Coast Guard boat that stood by and took the times of rounding. Finding this marker in the open sea has always been one of the features of the race.

Summary:

CLASS A

Start at 1:00 P.M.

Name	*Owner*	*Time at Ledge*	*Corr. Finish Time*
Grenadier	Henry A. Morss, Jr. Sherman Morss	12:32	6:04:00
Spindrift	Edward S. Lord	1:02	6:06:29
Black Goose	Everett Morss, Jr.	1:28	6:26:01
Starling	Harold B. Sears	2:27	7:20:39
Amberjack II	Paul D. Rust, Jr.	Withdrew	
Senga II	Herbert M. Smith	Withdrew	
Cossack	Julian B. Doherty	Withdrew	
Malolo	Frederick T. Moses	Withdrew	

"Snug," a 21-foot cutter in which Terence Keogh started from Woods Hole, in May, on a single-handed cruise around the world

CLASS B

Start at 11:00 A.M.

Nancy Lee	Donald Scott	11:08	6:00:47
Hostess II	Philip P. Chase	12:54	6:47:29
Reejak	Edmund S. Kelley	1:14	7:29:49
Nomad	Samuel Spencer	1:57	7:39:50
Alastor	Herbert Farnsworth	3:02	8:06:52
Blackbird	Arthur H. Veasey	1:52	8:11:00
Marianette II	Roger D. Hale	2:45	8:57:01
Gringo	Harold Amory	3:25	9:10:00
Penguin	Henry Flory	4:20	10:05:28
Thyrza	James B. Ayer	Withdrew	
Petrel	John H. Harwood	Withdrew	
Vida	Roger Mills	Withdrew	
Sou'wester	Warren C. Boles	Withdrew	
Et Tu	Raymond Hunt	Withdrew	

CLASS C

Start at 1:00 P.M.

Highland Light	Frank C. Paine	8:50	2:23:46
Armida	Nelson Aldrich	10:13	3:07:32
Viking	Philip Le Boutellier	10:17	3:21:24

R. B. WILLIAMS

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George Lee

UNTIL his departure down life's gangway on May 25th, George Lee, of Boston and Beverly, and senior yachtsman of Massachusetts Bay, had been actively engaged in racing small and intermediate pleasure craft for two-thirds of a century, probably a record in American yachting. Lee pushed off from the Beverly shore when a small boy and owned and raced his cat boat *Peri* in the early seventies with considerable success. Gradually working up into the 21- and 25-foot classes, he finally reached the "P's" and the Bar Harbor 31-footers in the last two decades. Despite his seventy-five years, he sailed his last yacht, *Mingo*, of the 31-foot class, in one of the closing races of 1931 and had her in commission at the time of his passing.

Launching of the 50-foot schooner "Sonny" from Jacob's Yard, City Island. Owned by Albert D. Phelps, of New York, she is a contestant in the Bermuda Race. Ford, Payne & Sweisguth are the designers

Bermuda "Sixes" Designed by Bj. Aas

In the last issue of YACHTING an article on the Six-Metre races between American and Bermudian boats credited the Bermuda "Sixes" to a design by Anker. This was an error, as these boats were designed by the well-known Norwegian designer, Bj. Aas.

A close start in Class F. Kenneth McKenzie, the winner, is second from right. His best heat was at the rate of 46.56 m.p.h. Below, John Bicknell, of Worcester, who boosted the nautical mile record in Class A to 33.798 knots

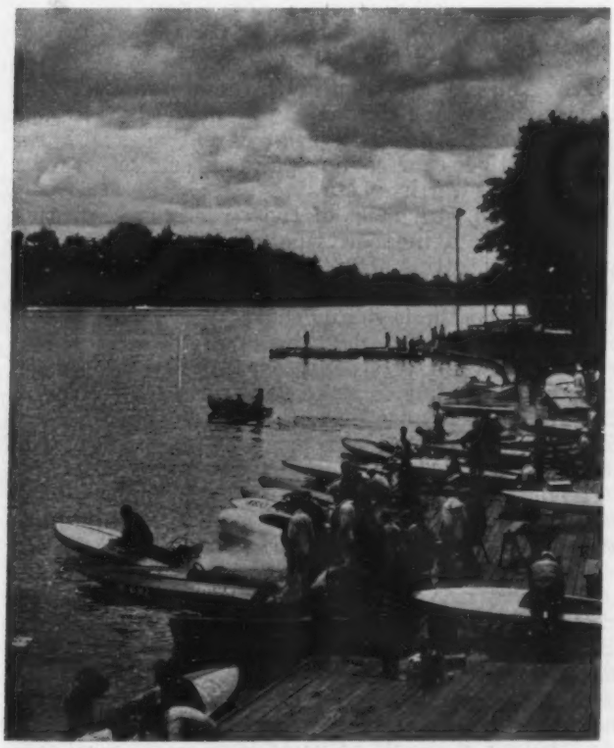
Photos by M. Rosenfeld

The Outboards at Lake Quinsigamond

THE fifth annual regatta of the Worcester County Motor Boat Club over the Memorial Day week-end, on Lake Quinsigamond, Worcester, Mass., upheld in every respect this meeting's reputation for hospitality, smoothness of direction and quality of competition.

Three outboard records fell and three new Class A inboard runabout marks were established in the three days of racing and mile time trials that attracted fifty entrants from seven different states.

Commodore H. Ross Maddocks and his little mahogany Pigeon Bearcat ironed out the inboards in three straight heats and set up a new standard for five-mile competition with a speed of 34.43 miles per hour. Maddocks abstained from running in the time trials, so honors over the measured mile went to Frank Wigglesworth, of Boston, and his Dodge Sweepstakes winner, *Miss Aldine*. Wigglesworth did 34.108 m.p.h. for the statute mile record and 29.526 knots for the international nautical mile standard.



The "pit" was a busy place during the Memorial Day Regatta on Lake Quinsigamond

The outboard records were confined to Class A. Fred Chase, a comparatively unknown driver from Northampton, Mass., put his home-built hydroplane over the measured mile at 39.564 m.p.h. for a Class A, Division II, time trial record, and the next day did 35.942 m.p.h. to surpass the competitive standard. John Bicknell, of Worcester, boosted the nautical mile standard in Class A to 33.798 knots per hour. Chase did not try the nautical mile course.

Veterans like Commodore Ed Patterson, of Troy; Marshall Eldredge, of Boston; Jack Wood, of Detroit; Red Collins, of Troy; and Ben Rhymer, of Kingston, had their share in the regatta glory, but most of the thrills were provided by three youngsters still in their teens. Seventeen-year-old Ken McKenzie, of New Haven, flattened out the "pros" in Class F, and Roy Straley, 16, of Bennett School, Buffalo, and Bedford Davie, 19, of Brooks School, North Andover, Mass., stole the Class C amateur show with some of the most reckless driving seen on the circuit.

The class winners and best heat performances follow:

Class A, amateur, John Bicknell, Worcester. Best heat, Mrs. Sue Mahoney, New York, 34.628 m.p.h.

Class A, professional, Fred Chase, Northampton, Mass. Best heat, 35.942 m.p.h.

Class B, amateur, U. I. Whitehead, Hartford, Conn. Best heat, George Raymond, Hartford, Conn., 32.954 m.p.h.

Class B, professional, George Weingartner, Hartford, Conn. Best heat, 39.198 m.p.h.

Class C, amateur, Bedford Davie, Tuxedo Park, N. Y. Best heat, Roy Straley, Eggertsville, N. Y., 43.604 m.p.h.

Class C, professional, Jack Wood, Detroit. Best heat, 43.689 m.p.h.

Class F, amateur, Paul W. Hyatt, Brooklyn, N. Y. Best heat, 44.466 m.p.h.

Class F, professional, Kenneth McKenzie, New Haven. Best heat, 46.560 m.p.h.

Class A inboard runabouts, Pigeon Bearcat, H. Ross Maddocks, East Greenwich, R. I. Best heat, 34.43 m.p.h.

EVERETT B. MORRIS

EDITORIAL

Yacht Owners to Pay User's Tax

IN PLACE of the discriminatory tax on the sale of new yachts and motorboats, the Revenue Act which was recently passed by Congress and signed by the President, June 6th, carries a graduated tax on the *use* of boats for pleasure purposes. This tax becomes effective July 1st. All boats under 28 feet length overall are exempt from taxation. All other yachts and motor boats pay on a graduated scale, as follows:

1.	Length over 28 feet and not over 50 feet	$10.00
2.	" " 50 " " " " 100 "	40.00
3.	" " 100 " " " " 150 "	100.00
4.	" " 150 " " " " 200 "	150.00
5.	" " 200 feet	200.00

Any foreign-built boat not owned by a citizen of the United States prior to January 1, 1926, pays double the above amounts yearly, during the life of the bill.

In effect, this taxation is much less burdensome than the ten percent sales tax which was originally written in the bill, although it affects more yacht owners. Small boats get off with no payment, and ten dollars is not too much to add to the cost of a season's yachting in boats not over fifty feet in length. The other amounts are also within reason. No one should grumble too much in view of the difficulty Congressmen found in balancing the budget. If you feel like letting off steam at any increase to the cost of your favorite sport, remember the sailor's adage, "Growl you may but pay you must."

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"Vema" Makes Fast Atlantic Passage

THAT was a fine run of the three-masted auxiliary schooner *Vema* last month, when she crossed the Atlantic in 10 days, 21 hours and 5 minutes. Most of the New York press hailed it as a record passage, and the scribes got busy looking up the fast passages of some of the old clipper ships to see just how much the *Vema's* time bettered the older figures. Creditable as this last passage was, however, it cannot be considered a record, for the *Vema* used her auxiliary power whenever it was expedient to do so. As her maximum speed under power is not equal to the average speed for the voyage, it is apparent that she made much of the run under sail alone and used the engine only in head or light winds. Captain Rodstrom himself, in speaking of the passage, merely says: "We made fairly good time."

An examination of the log of the ship shows an average of slightly over 11¼ knots for the entire distance of 2943 miles from Montauk Point, where departure was taken, to a landfall at Bishop's Rock Light, Scilly Islands. Fresh to strong north to northwest winds prevailed, with a moderate northeast gale the third day out. The daily runs were remarkably uniform for a sailing vessel, even with auxiliary power, the two highest being 308 and 297 nautical miles, made on succeeding days. The lowest full day's run was 238.3 miles, made in a strong northeast wind.

Vema is the first *Hussar*, built in 1923. She is at present under charter to Mr. George Vetleson, who sailed aboard the little *Maitenes* in the Transatlantic race last year. Bet he found some difference in crossing in a 50-foot overall sloop and this 203-foot schooner.

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Ocean Racing Rules

THAT'S a fine contribution to the ocean rating rule discussion which Gordon Munro makes in this issue of YACHTING. His analysis of the present rules is timely as showing their shortcomings, and his suggestion for a new formula is worthy of study.

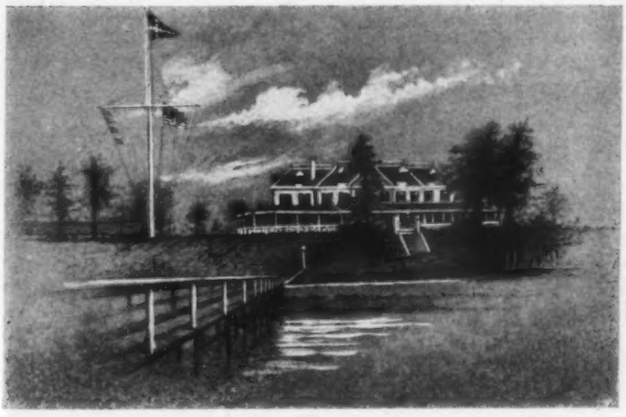
The trouble with most of the criticism of any rule is that it is made by those who favor a certain type of yacht, and is to this extent biased. For instance, your dyed-in-the-wool racing man favors only the racing type and is unsympathetic to any suggestions from the out-and-out cruising man, who thinks more of comfort and weatherlines than of speed alone. And your cruising man seems unwilling to make any concessions to speed. An unprejudiced viewpoint, therefore, should help in reconciling divergent ideas, provided one has an open mind.

The presence of many American yachts in last year's Fastnet Race, and of two British boats in the Bermuda run this month, emphasizes the need of a common rating rule for events of this character. Neither the Fastnet nor the Bermuda rule seem altogether satisfactory, and we believe it might be better to scrap both and start fresh with some rule based on the experience of the past ten years, that would prove acceptable on both sides of the Atlantic. The difficulties should not be unsurmountable, and as ocean racing men are agreed on the need of getting together, it should be possible to frame a satisfactory rule. What is needed, however, is action. The sooner the matter is settled the better for all hands.

IN THE WORLD OF YACHTING

E. TOWNSEND IRVIN

E. TOWNSEND IRVIN is not only well known on the Atlantic Coast as a racing skipper but he has the additional distinction of being the Commodore of one of the foremost racing clubs in the United States, which this month is celebrating the sixtieth anniversary of its organization. Sixty years ago on July 4th the Seawanhaka Corinthian Yacht Club sailed its first regatta on the waters of Long Island Sound off Oyster Bay. It was the first club in America formed primarily to promote Corinthianism in yachting, and during its long and successful career it has done much to place the sport on a sound and healthy basis and to foster the amateur spirit in yacht racing.



We first recall Commodore Irvin when he was racing the New York Yacht Club 50-footer, "Pleione," which he owned in 1913 and the years following, with Chester Rumrill. After the war he took an active part in the efforts of the Seawanhaka Yacht Club to get international competition with Great Britain started in the smaller classes, which resulted in the first British-American Cup series, sailed in Six-Metre yachts. He was part owner with "Dick" Boardman and J. L. Saltonstall of the "Grebe," which twice made the American team in these international matches, and he sailed in her, here and abroad, for a number of years thereafter.

About 1930 he went into the Eight-Metre Class with "Sally," which he has raced for the past three seasons, and he owns also the fast power cruiser "Tara."

In 1930 Mr. Irvin was a member of the America's Cup Selection Committee of the New York Yacht Club, which had the responsibility of picking the defender for the last match for the famous cup, "Enterprise" being chosen. He is also chairman of the Membership Committee of the New York Yacht Club.

Seawanhaka Corinthian Yacht Club. Founded in 1872 and celebrating its sixtieth anniversary this year

Under the Lee of the Longboat

by Cap Stan

AT THIS writing, over two weeks before the start, all signs point to a fleet of twenty-five or more fast and able yachts leaving Montauk Point on the 628-mile hike to Bermuda. Which is quite some showing in an off year. What the fleet lacks in quantity will be made up by quality, for it looks like the classiest outfit, both as to speed and seagoing ability, which ever faced the starter in any ocean event. Anyone trying to pick a winner has his work cut out for him — more so this year than in previous seasons, as there are several new craft with great possibilities about which little is actually known, such as *Barlovento, Brilliant, Mandoo* and *Cyclone*. Then there are the well-known veterans, *Malabar X, Highland Light, Teragram, Dorade, Duckling, Jolie Brise, Dainty, Mistress*, and so on. Weather encountered will have a lot to do with it — conditions similar to those which were met in 1926 will favor the big fellows, while a repetition of 1930 conditions will almost surely see one of the Class B boats come through on time allowance. Predicting the results of ocean racing having become more or less of a habit with the author of this page, it wouldn't be fair to disappoint anyone looking for a chance to tell him what a poor dopester he was, so here goes: *Highland Light* is the best bet for leading the fleet across the finish line, but will lose out to one or more boats on time allowance. Not far behind her should come *Malabar X, Lexia, Yankee Girl, Grenadier, Teragram, Brilliant*, and *Barlovento*. *Dorade* should be first in Class B, followed by *Viking* and *Malabar V*, either of which may give her a scare on time, as may *Dainty* or *Zena*. All of which is pretty confusing, what? Well, look in your morning paper, and I think you'll find that the winner of the whole shooting match will be either *Dorade, Malabar X* or *Teregram*.

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They tell me now that I will have to pay an annual tax of ten bucks on my boat — a sort of user's tax, as I understand it. Well, I'm not so badly off as some of my friends, who own boats between 50 and 100 feet long, and have to cough up 40 kopecks each season. As I don't recall any personal acquaintances who own boats over 100 feet I don't have to console the poor cusses who have to cough up enough coin to buy a couple of hundred shares of the best stock Wall Street ever heard of. Anybody want to loan me the ten-spot?

Jerry White and I used to cross swords every once in a while, back in the good old days before everything went haywire. Right now I am in perfect agreement with his statements regarding ventilation of a boat, and particularly when he brings out the point, which I have stressed more than once, that the natural way for air to flow, in the average boat, sail or power, is from aft forward. The powers of observation of most people are so atrophied that they never notice this phenomenon on their own or their friends' boats, and insist on trying to drive air in at both ends without leaving any kind of an outlet. Here's a pointer which may be of interest: Any coal stove is an artificial ventilating system. The smoke and heat which go out of Charlie Noble *must* be replaced with clean air from some opening or other — port hole, hatch, or what have you. The boat with a coal stove in operation is pretty sure to get reasonable ventilation, willy-nilly. Remember this point when trying to decide upon what type of stove to put in your hooker.

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No paragraph which I have written in many months has elicited so much favorable comment as the one last month about insurance premiums. One veteran yachtsman told me that his family had been paying high premiums for three generations, with never a claim to be satisfied, but that now they had cancelled every dollar's worth of protection until the rates were redrawn to be commensurate with the risks in their cases. Two other veterans say they have carried no insurance for upwards of twenty years, and never regretted it. Which simply means that the insurance companies are losing business, and will continue to do so until they wake up and do something about it.

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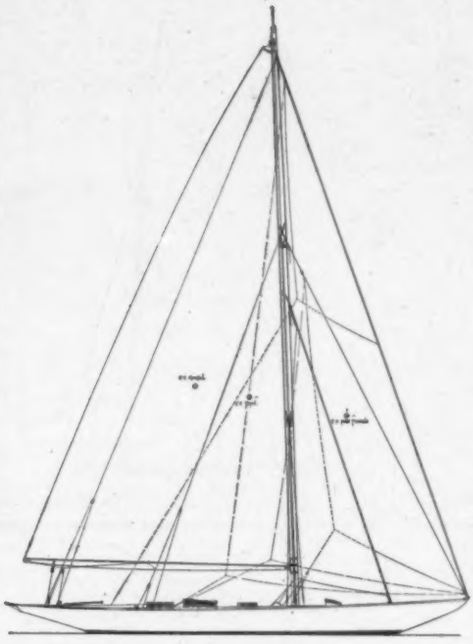
A new brand of paint and varnish has just come on the market, the product of a huge concern which has been making exhaustive tests for over six years. Their argument is this: Paint makers have been concentrating on improving their pigments, but are still using the same old vehicles. This concern has developed a new vehicle which, combined with the usual pigments, is said to produce paints and varnishes of astonishing durability and appearance. I hope it's all true. After a season's use, I may have something more to say on the subject.

Speed and Cruising Accommodations in This 12-Metre Boat

WITH racing in the 12-Metre Class attracting more and more attention, and excellent prospects for an international match in the class in 1933, the accompanying design of a boat to fit this class should be of decided interest both here and abroad. She is from the board of Chester A. Nedwidek, who has, in the past, assisted Clinton H. Crane while the latter was engaged in turning out *Weetamoe* and a number of successful 6- and 8-metre boats. The dimensions are as follows: l.o.a. 65′; l.w.l. 43′; beam, 12′; draft, 8′ 6″.

The hull design shows a craft of distinctly modern type under the International Rule, with easy sheer, good freeboard, U-shaped bow sections above the water line and full sections below it. The narrow deck line forward and finely drawn out stern are other features reminiscent of previous metre boats. The forward sections indicate considerable power, while aft she eases up quite a bit.

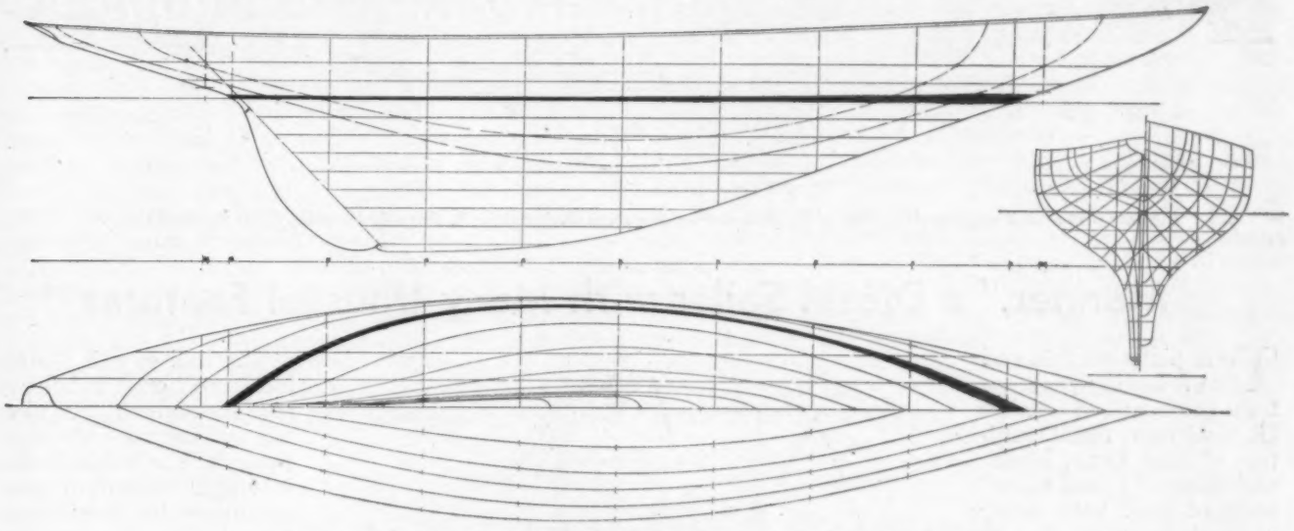
The designer has adopted the double head rig, with jib topsail, an arrangement which gives great flexibility in the variety of headsails which may be carried. The jibstay is not carried to any great height on the mast, a larger proportion than usual of the fore triangle being filled by the jib topsail, while the forestaysail appears to be quite small.



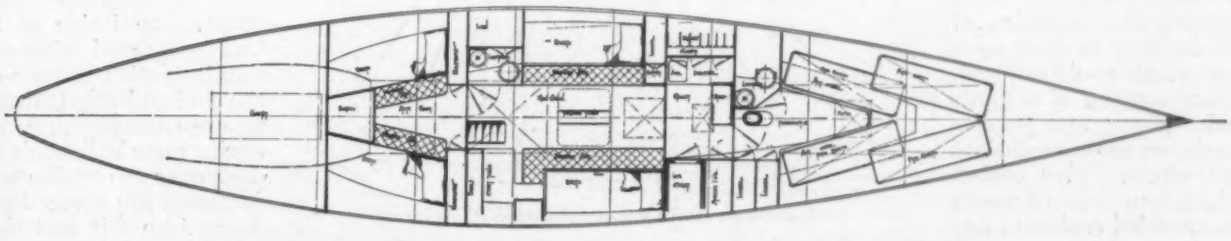
Sail plan

This craft, which may be taken as typical of the class, makes an excellent racing craft which is somewhat smaller and cheaper to build and sail than a Class M yacht, and at the same time is well adapted to cruising. The interior layout shows a double stateroom aft and main cabin amidships, with two built-in berths and two extension transoms, thus accommodating six in the owner's party. The toilet room is between the stateroom and saloon, and there is fine locker and stowage space. One corner of the main cabin is laid out for the navigator, with table, bookcase, instrument case, etc. The forecastle accommodates four men, and the galley is large and well equipped.

All boats built under the International Rule of measurement must conform to Lloyd's scantling requirements, but may be built entirely of wood or of composite construction. This craft is of the latter type, with steel frames, deck beams, floors and keel plate, with wooden planking, decks, etc., and lead keel.



The lines and body plan show the effect of the International Rule of measurement

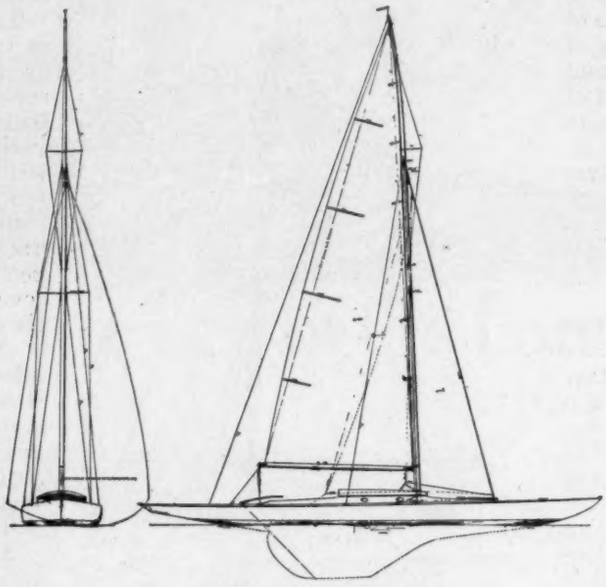


Interior accommodation plan of the 12-metre boat designed by Chester A. Nedwidek

One-Design 30-Square-Metre Boats for Buzzard's Bay

HERE are the plans of a 30-square-metre boat drawn by L. Francis Herreshoff, four of which will form the basis of a new one-design class for Buzzard's Bay. The first four are nearing completion at the George Lawley & Son Corporation yard at Boston for members of the Beverly Yacht Club. The dimensions are: l.o.a. 39′; l.w.l. 26′ 9″; beam, 6′ 10″; draft, 4′ 6″; displacement, 5557 pounds; sail area, 322 sq. ft.

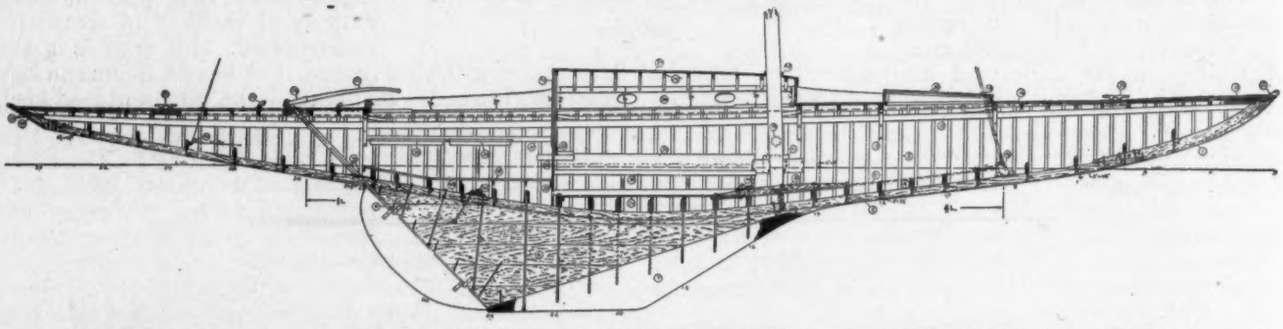
The square-metre boats are increasing in popularity in some localities, their adherents claiming that they are decidedly fast with moderate displacement and small sail area, and much cheaper to build than a six-metre boat, though they can beat the latter in strong breezes. The narrow, canoe-shaped hull is easy to drive at great speed with quite a small rig, and is lively and quick on the helm. Despite the long ends and low freeboard, they are said to be remarkably able little craft, at their best, perhaps, when the weather begins to get dirty.



Sail and rigging plans

The tall, narrow rig, far inboard, is a rather unusual sight to American eyes, but not at all out of the ordinary in the Scandinavian countries and Germany, in which these craft have been decidedly popular for several years. Two transoms and a bit of stowage space are found under the small trunk cabin house.

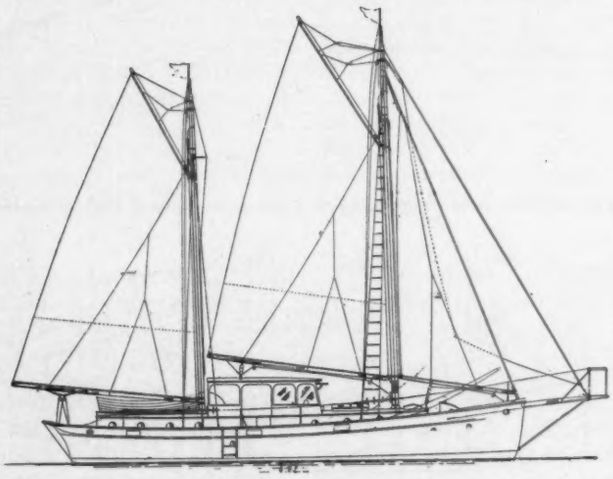
Racing of boats of the square-metre type started at Marblehead, spread to Northeast Harbor, Maine, and Buzzard's Bay, and now has a foothold on the Great Lakes and a start on the Pacific Coast. International matches have already been held between American craft and boats representing the Scandinavian countries and Germany.



Inboard profile and construction plan of the 30-square-metre boats designed by L. Francis Herreshoff for Buzzard's Bay

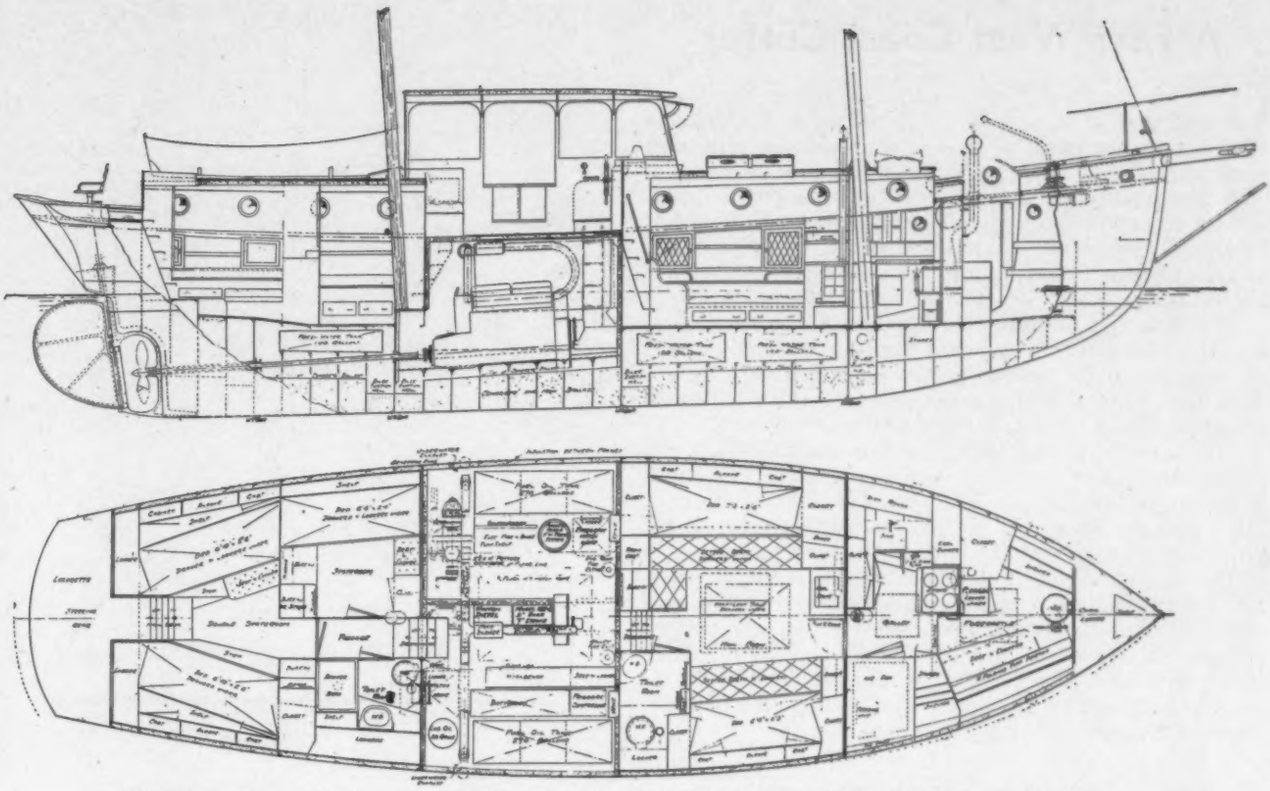
"Mariner," a Diesel Sailer with Many Unusual Features

THE plans on this and the following page are from the board of Charles G. McGregor, naval architect of East Lynn, Mass., and show a "Diesel sailer" built of steel with many unusual features. She is 54′ long, 49′ water line, 15′ beam and 5′ 10″ draft, it being the intention of the designer to draw up a boat which would sail well, attain a speed of 9 knots under power, and provide maximum accommodations and comfort, plus perfect safety, for owner and guests on extended cruises in any waters.



Sail plan of the McGregor-designed Diesel sailer

The hull of this "Mariner-type" craft is built of steel throughout, with electric welding used wherever possible. The hull is divided into four watertight compartments by three transverse bulkheads, any three compartments being sufficient to keep the vessel afloat. The inside of the hull is covered with cork slab insulation to keep out the cold and help maintain an even temperature. The engine room bulkheads and deck over the engine compartment are covered with Acousticon felt and sheet metal to eliminate noise



Inboard profile and interior accommodation plan of the 54-foot Diesel sailer designed by Charles G. McGregor

and vibration. An underwater exhaust is used to further reduce annoyance from noise.

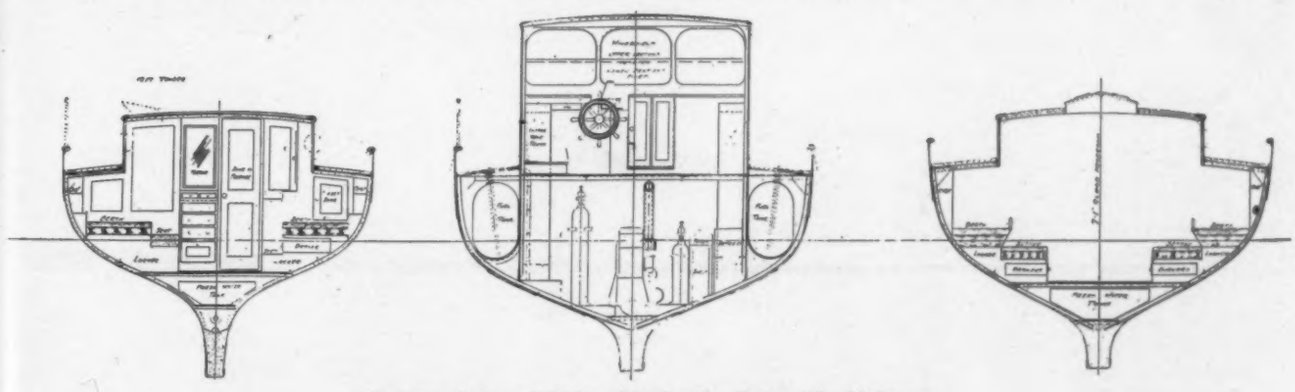
The main engine is a Winton solid injection Diesel, with electric starter, developing 100 h.p. at 1000 r.p.m. A cruising speed of 9 knots can be maintained at 800 r.p.m. The 2½ k.w. generator is operated by a Petters single-cylinder, two-cycle semi-Diesel motor, an installation which has proved highly satisfactory in many craft. There is no provision whatever for any gasoline aboard, and every effort has been made to make the craft fireproof, the interior trim being of metal rather than wood, the latter being finished in a perfect imitation of natural woods.

The cabin floors are of thin plating covered with Asbestolith, an excellent fire-resisting material which looks and feels like battleship linoleum. The engine room has not only fine natural ventilation, but also a spark-proof blower system.

The ample space below decks is carefully arranged to utilize every inch of space. The forecastle is equipped with berths for two paid hands, toilet, closet and lockers. The galley is large and airy, with Shipmate stove, Frigidaire, dresser, dish racks, etc., everything being of metal. The main cabin has accommodations for four people, with two fixed berths and two settee berths, ample closets, bureaus, etc. There is also a cabin coal stove, a distinct asset in the off months, or when foggy, damp weather is encountered. A toilet room is located on the starboard side of this cabin.

Abaft the 'midships engine room are a single stateroom, on the port side, bathroom with shower opposite, and a double stateroom at the after end of the ship with entrance to the after deck. These rooms all have metal furnishings in keeping with the general scheme of making everything fireproof.

The deckhouse over the engine compartment is glassed in on the forward end and on part of the sides, and also across the back. Either the forward or after quarters may be entered from the deckhouse without going on deck.



Sections of the steel 54-foot Diesel sailer designed by McGregor

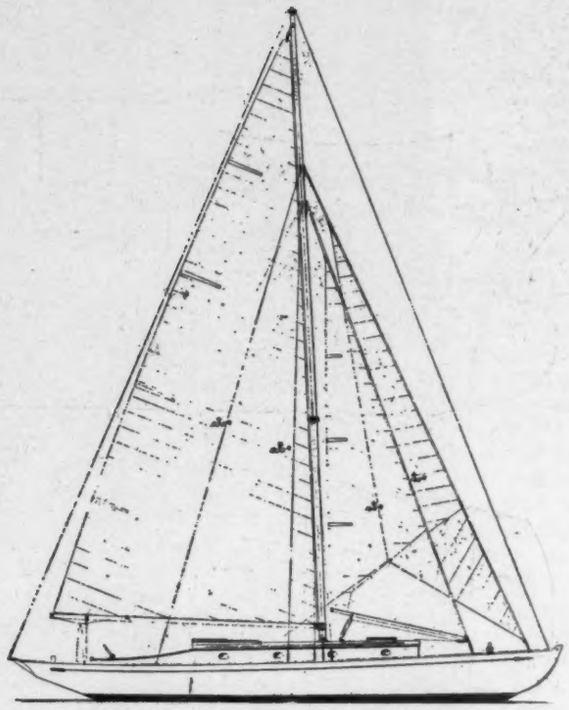
A Fast West Coast Cutter

OUT on the West Coast, where there are many ups and downs of weather, it is of great importance that a cruising craft be not only decidedly able and comfortable, but a smart sailer in all kinds of going. The accompanying plans of a "knockabout cutter" show a craft which fills the bill. She is from the board of George H. Wayland, naval architect of San Francisco, and is of the following dimensions: l.o.a. 45′; l.w.l. 33′ 3″; beam, 10′ 8″; draft, 7′; sail area, 850 sq. ft.

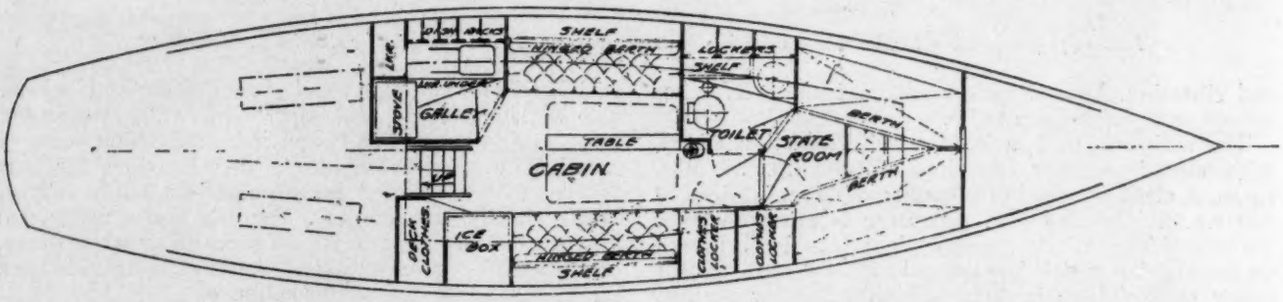
The ends and freeboard are moderate, the sheer easy, and the bilges firm. The beam would be termed normal abroad, and a bit on the narrow side in this country, with long, sloping keel, a combination making for speed on all points of sailing, particularly to windward.

The mast is placed well aft, and runs through the cabin trunk. The entire rig is inboard, with permanent backstay to the taffrail. The forestaysail has been kept large and the jib small. No jib topsail is shown on the plan, though one might be carried to great advantage.

The interior layout is conventional, with double stateroom forward, main cabin amidships, and toilet and clothes lockers between. The galley is aft, abreast the companion steps to port, with ice box and clothes locker opposite. There is ample room under the bridge deck and cockpit for the installation of a small 4-cylinder motor which should give a speed of 8 knots.



Sail plan of the Wayland-designed cutter



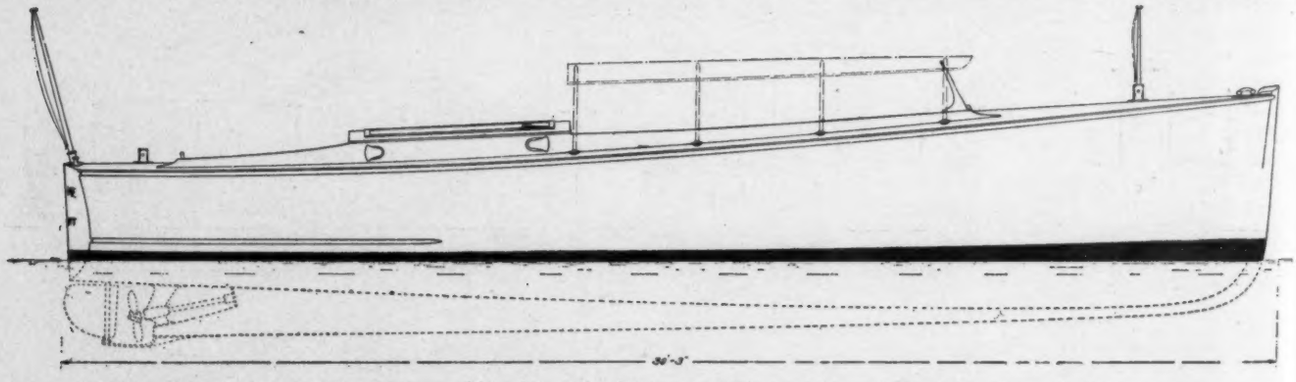
Interior accommodation plan of the 45-foot jib-headed cutter designed by George H. Wayland for a West Coast yachtsman

+ + +

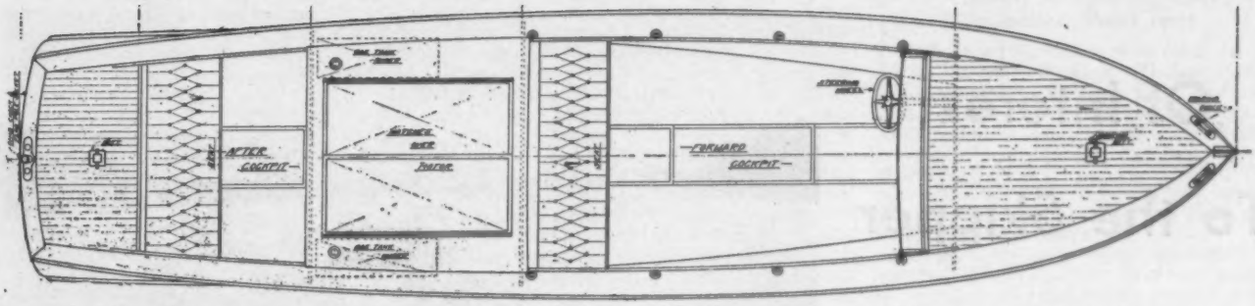
A Fast Runabout for Use on the Maine Coast

THE plans on this and the following page show a snappy, fast runabout designed by Russell Gray and building by Gray Boats, Thomaston, Maine, for Mr. Gouverneur Cadwalader, of Philadelphia, for use around Dark Harbor, Maine, the summer home of the owner. She is just over 30 feet long, with beam of 7 feet and draft of 2′ 2″, and is expected to develop a sustained speed of 25 miles an hour with an 8-cylinder Chrysler motor.

Construction is rugged yet light, and of the highest quality, the specifications including mahogany planking, bronze fastenings, chromium plated hardware, etc. There are two cockpits, one forward and one aft, with the engine compartment somewhat abaft amidships.



Outboard profile of the 30-foot runabout designed by Russell Gray for Mr. Gouverneur Cadwalader, for use in Maine waters



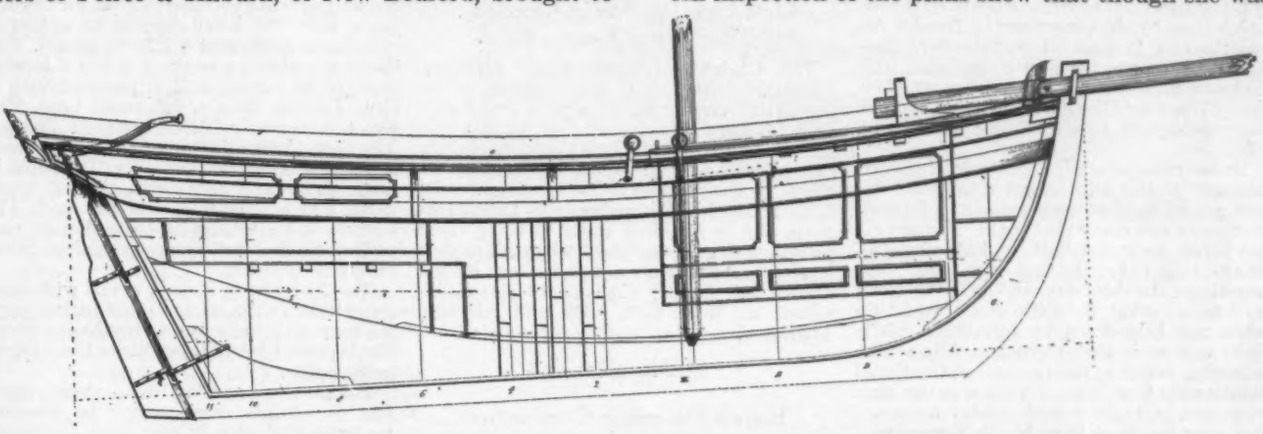
Interior layout of the Gray-designed 30-foot runabout, now building by Gray Boats for Mr. Gouverneur Cadwalader

The smaller after cockpit has the conventional athwartships seat, while the large forward cockpit has one small seat, the rest being left open for deck chairs. There is a permanent windshield for the forward cockpit, with a temporary top and side curtains for use in inclement weather.

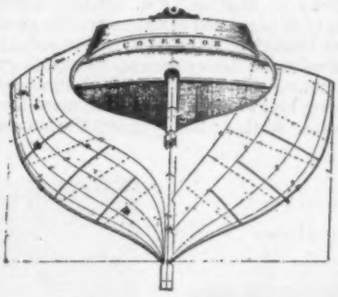
"Governor," a Cutter Which Won Races Over 100 Years Ago

WHILE rummaging around among a lot of rubbish in an old garret a few months ago, one of the partners of Peirce & Kilburn, of New Bedford, brought to light the plans of an interesting old craft which was undoubtedly one of the outstanding small yachts of her day. The plans, which we are privileged to reproduce herewith, bear the following illuminating message: "A Draught of the GOVERNOR, built by E. Larkin, which won the Annual Prize Cup given by The Right Honble. LORD CAWDOR, Governor of Milford Haven, etc., etc., in the years 1809, 1810, 1811 and 1812." Elsewhere we find an inscription giving the following data of this old timer: Length Aloft, 31′ 2″; Length On the Keel, 22′; Breadth extreme, 11′ 3″; breadth moulded, 11′; Depth in Hold, 5′ 5″; Burthen in Tons, 13. Unfortunately, no sail plan came to light, so we must guess at the sail area and details of the rig, though the profile shows quite plainly that she was a cutter with reefing bowsprit alongside the stemhead.

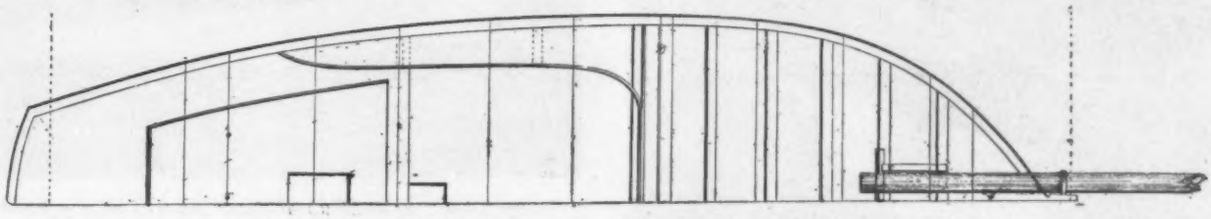
An inspection of the plans show that though she was decidedly "apple-bowed," with great beam, the powerful sections had been smoothed out by a master hand, and there is little doubt but that she would do some real traveling with lifted sheets, albeit a bit slow going to windward in rough water. The deep forefoot, long, sloping keel and raking sternpost are typical of craft of the period. Judging from the drawings, and the practice of the day, it is quite probable that the boat was built early in the nineteenth century, and the lines taken off some years later that future generations might know what the famous craft looked like. Incidentaly, the plans of *Governor*, and other craft of about the same vintage, prove conclusively that the designers of those days were pretty clever craftsmen.



Inboard profile of the 31-foot cutter "Governor," a famous prize winner in 1809, 1810, 1811 and 1812

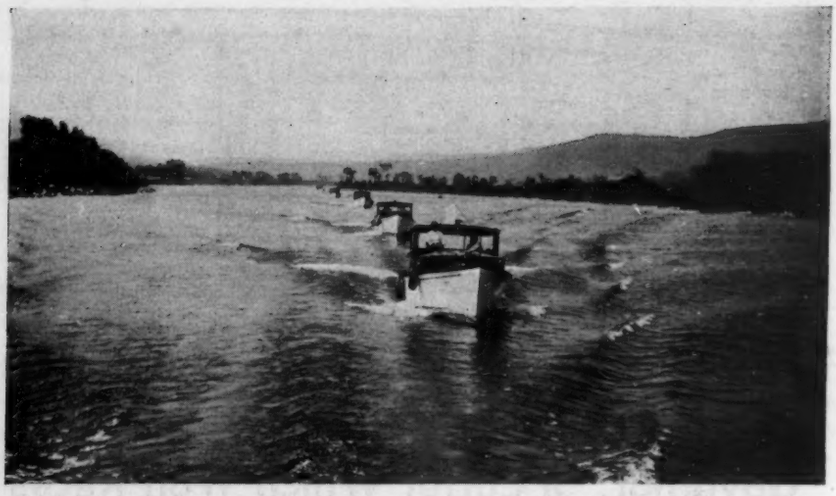


Body plan of "Governor"



The deck plan of "Governor" shows the reefing bowsprit and full forward sections

Of Interest To the Skipper



A trim fleet of Richardson Cruisabouts during this spring's sail-away cruise from North Tonawanda to New York by way of the Barge Canal

A Successful Sail-Away Cruise

THE third annual sail-away cruise of Richardson Cruisabouts started from North Tonawanda, New York, on May 29th, and proved to be a most enjoyable affair for all hands. The purpose of these cruises is to enable the owners of new Richardson boats to bring them to their home ports by water rather than by shipping them by freight. As was the case in past cruises, the fleet proceeded by way of the new barge canal, the Mohawk and the Hudson Rivers to New York City, where the fleet disbanded and the boats proceeded to their home stations at will.

Under command of J. E. Gillespie, sales manager of the Richardson Company, the fleet got off on the long passage at 9:35 a.m. Rochester was made that night. The second day's run took the fleet to Baldwinsville, and Oneida Lake, the first open water, was negotiated the third day, all hands "opening up" to see what the little boats would do when not held down by formation. Little Falls was made that night and Albany the following evening, the passage of the Canal taking only four days. Nyack was the next stop, and at 11:30 o'clock Friday forenoon, just over five days from North Tonawanda, the fleet arrived at New York and disbanded. Total running time was 55½ hours, including time spent in locks, probably the fastest time ever made for the run by a fleet of medium sized, medium powered cruisers.

Though the fleet was not as large as last year, the following boats participated: *Maranth*, Dr. E. Seimeca; *Peggy II*, Dr. A. J. Burkle; *Ora-Kia II*, Harry Ney; *Queen Bess II*, Lloyd Sauberan; *Mike*, A. Morrison, and *Ike*, J. E. Gillespie. All hands voted this year's cruise a most satisfactory undertaking.

Chris-Craft Display at Chicago Navy Pier

The Chris-Craft Corporation, Algonac, Michigan, announces the opening of a permanent display for dealers at the Navy Pier, Chicago, Illinois.

A complete line of Chris-Craft runabouts and cruisers will be on display here at all times for the purpose of cooperating closely with dealers in showing boats to their prospects and in enabling them to bring their prospects to a central point where all models can be seen and demonstrated afloat. Chris-Craft factory displays are also maintained at New York City and Algonac, Michigan.

Baltzer Fisherman Construction Cabin Boats

A great fleet of successful boats are behind the Baltzer Jonesport Model Cabin Boats. This model was developed for the fishing fleet of the Eastern Maine Coast by boatbuilders of that section. Baltzer uses the same type of rugged construction for pleasure boats that they have used in the fishermen, built to stand heavy seas and hard usage the year round. They move fast with small power, making an exceptionally economical boat to operate. With ordinary care, the Jonesport Model Boats are considered good for twenty years, with very small expense for upkeep.

There is a 28- and a 22-foot model. The larger model has a beam of 8 feet 6 inches, draft of 30 inches, and is powered with a Gray Engine, 45 h.p. fisherman type. The hull is also sold without motor or fittings. The outstanding features are safety, comfort and economical operation. The cabin is large, light, and airy, with six-foot headroom, and is finished in white enamel. The outside and all finish is natural oak, varnished. All deck fittings are galvanized unless otherwise ordered.

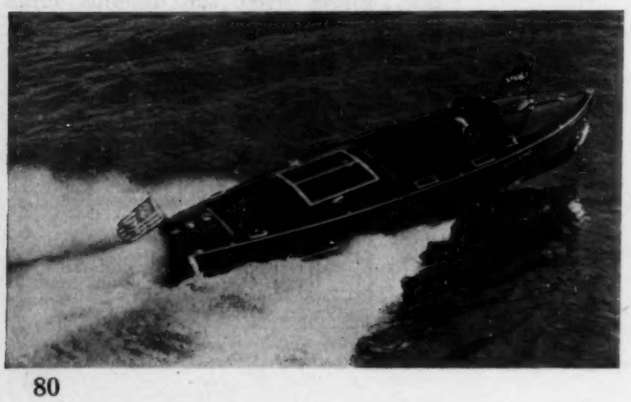
The 22-footer is a sport model with large cockpit for fishing or day cruising, but there is a forward cabin with two berths and toilet. She is powered with a 4-cylinder Gray fisherman engine.

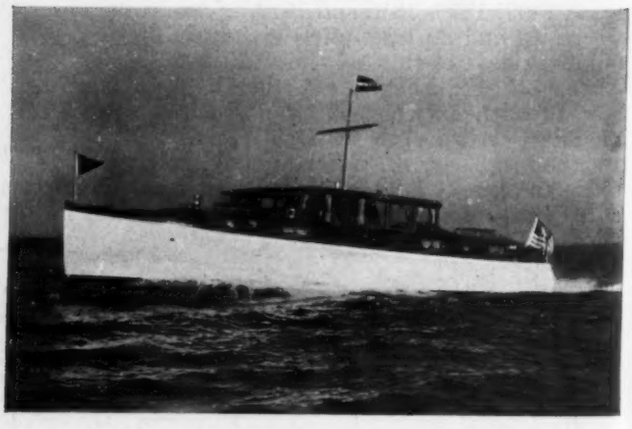
Detailed information about these rugged and serviceable cruisers may be obtained by writing to the Baltzer Boat Company, Inc., Medford, Mass.

Topping Bros. Offer New Line of Marine Hardware

In order to take care of the big increase in retail trade, Topping Bros. have enlarged and improved their marine department. Extra sales people and comprehensive stocks of hardware and boat supplies make it a pleasure to buy at Topping Bros.

One of the new Chris-Craft models, the 21-foot Standard Runabout





"Moby Dick," a Matthews 46-footer powered with a Sterling Petrel engine which drives her 19 m.p.h.

The firm has catered for many years to the heavy hardware field and now they are becoming well known as a most complete yacht supply house. The stock is complete and any reasonable order can be filled and delivered in 24 hours.

Topping Bros. are distributors for such companies as Goodrich Cutlass Bearings, Monel Metal (Int. Nickel), Wilcox Crittenden, and others.

Esmond Yacht Blanket

The Esmond Yacht Blanket was designed by a yachtsman for yachtsmen. It is made like a sleeping bag, open on one side, talon fastener the entire length of the other. It overcomes the difficulty of trying to tuck blankets in under the cushion. Simply tuck in open side, close fastener, and sleeping in a berth becomes a pleasure — blankets don't pull out and sleeper stays warm.

The Esmond Yacht Blanket is made of 100 percent pure wool and incorporates the exclusive Esmond Pelage feature — a shorter, closer second nap under the regular outer nap which makes for greater warmth with a welcome relief from oppressive weight, and produces a delightfully soft blanket.

At present the Esmond Yacht Blanket is on sale only at the Esmond Blanket Shop, 580 Fifth Avenue, New York, and T. D. Whitney Co., 37 Temple Place, Boston. It is expected that other stores will soon have it. Meantime, either of these stores will fill mail orders on receipt of $12.50.

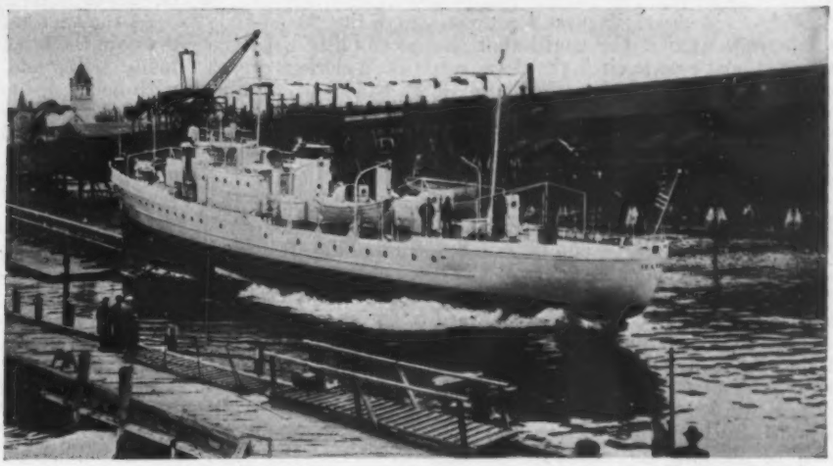
A Dependable Yacht Buoy

The assembly of the new Wilcox, Crittenden & Co. "Ever-Float" Buoy is a special feature. A ⅝" buoy rod is screwed into heavy cone castings, pulling both halves of the buoy tight together. Then the circumference seam is double-lapped and soldered. All strain is carried by the buoy rod. No tension stress is placed on the body of the buoy. In addition to this improvement in buoy construction, the materials used in "Ever-Float" give assurance that it will last longer than the ordinary light sheet metal buoys. It is made of galvanized heavy-gauge Toncan Metal with all joints double seamed and soldered. The upper cone casting has a screw drain plug to enable the boatman to dry out the buoy at the end of the season. Extra size bails swivel freely on each end of the buoy rod, so there can be no chain kinks. A large rubber bumper saves any marring of the paint on the boat. The price is $15.00.

Woolsey Conducting Series of Bottom Paint Tests

Under the supervision of its chief chemist, Asher J. Cohen, the C. A. Woolsey Paint & Color Company, of Jersey City, has inaugurated a new and extensive series of tests on wood and steel bottom paints. The Woolsey Company, who brought out this season a guaranteed wood bottom paint called Toxicop, has, since 1853, made a special study of marine paint requirements, and their products have a wide reputation.

In the tests now being conducted the waters of North Carolina have been selected as affording an ideal testing ground due to the severity of marine conditions in that section. As in previous tests, a large number of wood and steel panels have been painted with Woolsey Bottom Paints, including those already in established use as well as new developments still in the experimental stage. The panels will remain submerged for eight to ten months and frequent inspections will be made during this period.



"Icarus," one of the seven new Coast Guard 165-footers being launched at the Bath Iron Works. Like her sister ships, she is powered with twin Winton-Diesels

New Directory of Boat Builders Available

The third annual Directory of Boat Builders is now available. Compiled and published by the Boating Bureau of Outboard Motors Corporation, Milwaukee, it is most complete and helpful.

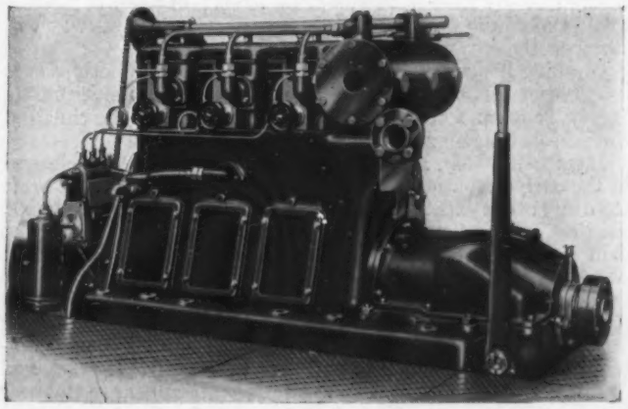
The Directory lists 177 boat manufacturers, and shows that their combined production includes 619 models of boats. It lists also the names and addresses of 16 builders of knockdown boats, 23 suppliers of boat plans, and a number of manufacturers of water sports accessories. The boats are tabulated under 11 classifications.

Further information can be had by writing to manufacturers.

The Johnson Life Ring and Water Light Holder

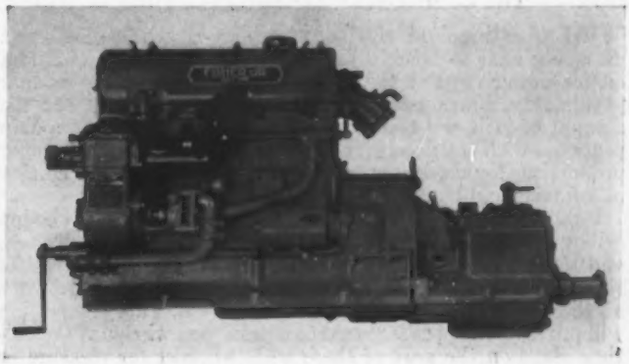
Anyone who has been in the unfortunate position of having to throw a life preserver to a "man overboard" from a yacht has undoubtedly found great difficulty in getting

(*Continued on page 93*)

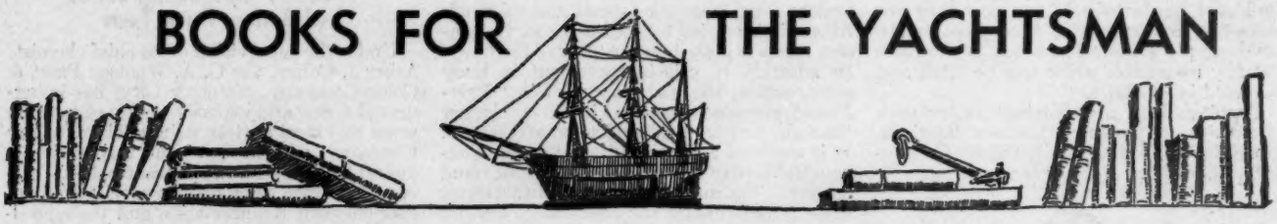


A 27 h.p. Lister Diesel for yachts

The Fisher-Jr., a 60-70 h.p. 4-cylinder Hall-Scott engine with reduction gear



BOOKS FOR THE YACHTSMAN



10,000 Leagues Over the Sea

By William Albert Robinson

(Brewer, Warren & Putnam, New York, 1932. $3.50)

SVAAP in Sanskrit means a dream, and the 32,000-mile voyage around the world that she accomplished, as the shortest boat ever to circle the globe, reads like a glorious dream come true in the words of William Albert Robinson, *Svaap's* youthful skipper. Others have sailed in small boats to seek the fountain of youth in the beauty of the sea and far-flung islands, but none have written about their adventure with the romance that fills "10,000 Leagues Over the Sea."

Robinson had the courage and youth to revolt against the humdrum of an efficiency engineer's job, fit out a boat and turn his back on the miseries of civilization. He found his dreamship in a roomy 32-foot Alden-designed ketch, studied navigation, and departed from New York in 1928. Bermuda was the first stop, and then he continued southward to the gateway of the Pacific. West of Panama he sought the islands of paradise and found them in the Galapagos, Tahiti, Samoa, Fiji, New Hebrides, Solomons, New Guinea, and Bali. He learned their language, studied their ways of living and explored their tropical beauty. In these islands *Svaap* weathered a hurricane and her skipper ate long pig with Fiji Islanders, wondering the while if he would be the next to go into the pot.

Sailing ever toward the setting sun *Svaap* stopped at Malaya, crossed the Indian Ocean and anchored on the Arabian coast, where the "Tales of the Arabian Nights" came to life when Robinson was kidnapped and taken inland to a desolate fortress. He escaped and *Svaap* continued northward in the Red Sea, battling against parching gales, escaping reefs and dodging pirates.

Finally, *Svaap* sailed into the Mediterranean and back to the Atlantic, returning homeward *via* the Northeast Trades to complete the voyage in three and one-half years.

The book, besides being a complete romance of adventure, contains nautical lore of value to all yachtsmen. It should be read by all yachtsmen.

C. W.

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Mastmaking, Sailmaking and Rigging

David Steel. From the 1794 Edition

(W. G. Foyle, Ltd. London, 1932. $15.00)

THE masting and rigging of square-rigged sailing craft comes near to being a lost art in these days of steam and oil for power, and of the tall jib-headed rigs in our modern yachts. Just how much of an art it was 140 years ago, and the amount of skill and technique required to spar and rig a ship properly, with the necessary strength for safety and the proper proportions for symmetry, one must needs read this new edition of a famous old book to find out.

Published originally by David Steel in 1794, when wooden sailing ships were the only means of communication by sea, and the chief defense of maritime nations, it was so successful that it soon had to be re-issued and became the standard work on the subject in the English speaking world. This new edition will prove an indispensable aid to a better knowledge of the old-time ships on the part of those who, whether for pleasure or profit, have been captivated by the appeal of these old craft.

The book is arranged, both now and originally, with great care, and is divided into three parts, each with a glossary and explanation of the terms used in (1) mastmaking, (2) sailmaking, (3) rigging — names which in this day and age are in grave danger of being lost.

At the time the book was published, most of the masts and many of the other spars of ships of any size were "built up" of many strips and pieces, carefully fitted and bound together with hoops or bands. This was done not only for strength but also on account of the scarcity of suitable trees in Northern Europe. The making of the masts for a 36-gun ship became, therefore, a most exacting piece of work, requiring great skill. The details of construction are shown in excellent drawings of the period, and the plate work and the reproductions of the old wood cuts are exceedingly fine. There are in all 59 folding and other plates, drawn to scale, illustrating the masts, sails, yards, rigging, etc., for every class of vessel from the full-rigged ship down to the ship's boat, including the progressive method of rigging ships. There is, in addition, an illustrated section describing the principal foreign rigs, including many which are known to us only by name — such as Polacre, Pink, Howker, Bugalet, Tartan, etc. Tables of measurements and dimensions of rigging and fittings for vessels of varying sizes will prove of great value to the modelmaker.

The publishers have reproduced in this book a technical work of much value, and it can be recommended as the most important book of its kind that has ever been published.

H. L. S.

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The Eastern Yacht Club Ditty Box

By Charles H. W. Foster

(Privately Printed, 1932. $5.00)

A LAUDABLE effort to perpetuate in printed form interesting yachting events in the last century in and around Boston, which shares with New York the honor of initiating pleasure boating in America, has just been completed by Charles H. W. Foster, one of the veterans of the sport, in his history of the Eastern Yacht Club. So varied has been the information compiled that Mr. Foster has called his book a "ditty box," for into it numerous members and friends have dumped personal accounts, early records, pictures and all sorts of yarns of interest to old and young yachtsmen and of great value to those who will carry on the sport in future years.

In filling his ditty box, Mr. Foster has had the enthusiastic coöperation of past and present officials of the club, including Henry Taggard, for twenty-one years secretary of the club and the person who suggested the undertaking.

Incidentally, Mr. Foster, who began yachting at Marblehead in the early seventies, has owned probably more pleasure craft than any other yachtsman in the country. His record is 53 boats, ranging from a three-masted coasting schooner to the 11-foot skiff which he built himself last year in his old boathouse at Marblehead. Henry L. Maxwell, of New York, is a close second with 44 boats on his list.

As Charles Francis Adams says in his foreword to the Racing Records of the New York Yacht Club, which have been compiled under the direction of Secretary George A. Cormack and W. Butler Duncan, and which will probably appear in the near future: "The preservation of the record of concerted achievement, is a tribute to the past and a duty to the future."

W. U. S.

A quarter of a century of fine yacht building and designing furnishes a background of high purpose and accomplishment. "BUILT BY NEVINS" means much in a yacht. It is an identification of highest quality and a guarantee of superlative materials and workmanship. We give below a partial list taken from over three hundred and eighty yachts of all types "BUILT BY NEVINS" — a growing fleet, which typifies the best in yacht building of which the owners are justly proud.

CRUISING POWER YACHTS

80′	Elmarlu	James H. Ottley
75′	Analgra III	Lewis E. Pierson
41′	Snook	B. V. Norton
32′	Snap Shot	John Levick
54′	Novia	Harold Tobey
Hunting Boat		
45′	Knapp Island	E. H. Gold
House Boat		
60′	Dreamer	Charles W. Lee
Diesel		
110′	Nevada	DeVer H. Warner
120′	Analgra	Lewis E. Pierson

COMMUTERS

40′	MoMo	C. H. Crane
61′	Oheka	Otto H. Kahn
66′	Phantom	P. Grant 2nd
71′	Sazarac	G. H. Townsend
75′	Cigarette	L. G. Hammersly
81′	Sazarac	G. H. Townsend

CRUISING SAIL YACHTS

39′ Yawl	Solita	Daniel Bacon
62′ Yawl	Seamaid	H. H. Childs
66′ Sch.	Saona	C. M. Brooks
35′ 6″ Sl.	Dagomar	T. F. Humphrey
68′ Sch.	Nirvana	H. Struckman
75′ Ketch	Ventura	Geo. F. Baker
25′ Sl.	Chantey	H. H. Larkin
92′ Sch.	Amerind	W. Ackerman
31′ 6″ Sl.	Golliwog	Ernest Ratsey
62′ Sch.	Brilliant	Walter Barnum
46′ Yawl	Ayesha	John R. Hogan

INTERNATIONAL SIX-METRES

Grebe	E. T. Irvin & J. Saltonstall
Clytie	H. B. Plant
Priscilla	Johnston deForest
Viva	Larchmont Yacht Club
Ingomar	H. B. Plant
Hawk	W. A. W. Stewart
Firefly	E. Townsend Irvin
Heron	Clinton H. Crane
Madcap	H. L. Maxwell
Natka	Henry B. Plant
Dauphin	J. Mitchell Hoyt
Lanai	Seawanhaka Syndicate
Red Head	Clinton H. Crane
Frieda	H. F. Whiton
Clytie	H. B. Plant
Priscilla	Johnston deForest
Picaro	Harold Tobey
Atrocia	C. Sherman Hoyt & H. L. Maxwell
Akaba	Clinton H. Crane
Saleema	Henry B. Plant
Thalia	Lewis G. Young
Meteor	O. W. Johnson
Comet	J. P. Wilson
Mars	Van S. Merle-Smith
Mist	J. K. Roosevelt
Cherokee	Herman Whiton
Sprig	Robt. B. Smith

THE ENTIRE AMERICAN TEAM RACING FOR INTERNATIONAL CUP AT COWES, ENGLAND, THIS SUMMER

Lucie	Briggs S. Cunningham
BobKat II	Robert E. Meyer
Jill	J. Seward Johnson
Nancy	Seawanhaka Syndicate

INTERNATIONAL EIGHT-METRES

Aleada	Harold Tobey
Priscilla III	Johnston deForest
Thisbe	Van S. Merle-Smith
Sally	E. Townsend Irvin
Mab	Robert N. Bavier
Muffet	H. B. Plant

CLASS "M" YACHTS

Windward	J. S. Morgan, Jr.

CLASS "R" YACHTS

Four R Boats	Pequot One-Design
Hayseed II	H. L. Bowden
Ardette	Donald H. Cowl
Secret	Harold Tobey
Fifi	Henry L. Maxwell
Ardelle	Donald H. Cowl
Alert IV	C. Deere Wiman

GOLD CUP BOATS

Miss Columbia	Gold Cup Syndicate
Baby Bootlegger	Caleb S. Bragg
Greenwich Folly	George H. Townsend
Miss Philadelphia	John D. Shibe

The first three of the above boats won the Gold Cup.

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34′	Arcadia	Galen L. Stone
34′	Sneeze III	Edw. S. Moore
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40′	Typhoon	Edsel Ford

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10 Bayside Birds
10 Huntington Dancing Class
20 Southampton One-Design
20 Victory Boats
5 Star Boats
16 Fishers Island One-Design
28 Inter-Clubs
25 Sailing Dinghies — Ratsey & Lapthorn
1—11′ 6″ Sailing Dinghy—H. C. Hall

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Captain Waller's Twin Spinnaker

(*Continued from page 40*)

This makes less work for the single-hander. But when the crew consists of more than one member, especially in craft larger than *Imogen*, where the question of windage is perhaps relatively more important, I believe it would be just as well to run the spinnakers up on jackstays. The jackstays can be mastheaded from the ends of a yoke hooked into the lower block of the forestays'l halliard, or they can be permanently hung over struts aloft and jigged to an eye bolt on deck or the inverted cranes, as previously explained.

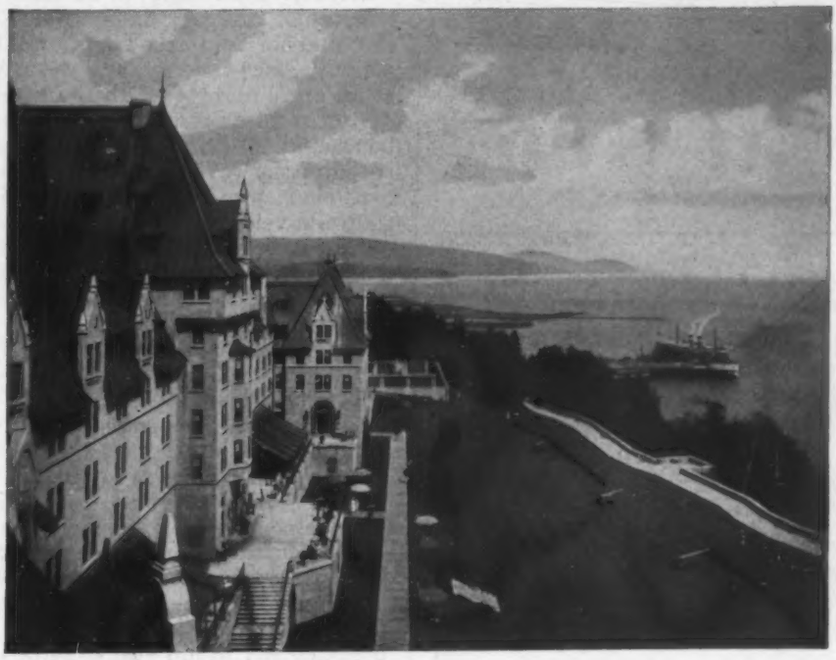
In setting the rig, the mizzen would first be handed, or the mainsail in a schooner, and then the headsails, giving a clear deck forward for running out and guying the two booms. Then the lee spinnaker would be hanked to its jackstay and run up in stops and then broken out and brought home, all under the lee of the mainsail or, in the case of a schooner, the fores'l. This sail is now handed, and the helmsman brings the wind a point on the same quarter as the spinnaker already set in order that its mate can be hoisted — in case it has not been put up in stops — without danger of chafing on the forestay and also to cant off the working plane of the sail so that the sheet can be brought home with a minimum amount of exertion. In real cruising, when it makes little difference whether you fetch Rio at 12:10 or 12:30 p.m. a week from next Thuesday — and this is essentially an offshore rig to replace the bunglesome, quarrelsome squaresail — all the fore-and-aft sails probably would be lowered in advance and properly made up, and then the spinnakers run up, first on one side, while the helm was eased to bring the vessel slightly across her course, and then on the other, as you get into a pair of pajamas, first putting in one leg and then the other. So we might call Captain Waller's invention "Trade Wind Pajamas," if one may be permitted to name another man's child, to convey the sense of ease and comfort in their use.

In handing the rig, the sails are alternately lowered directly on the foredeck, there being no need to "capture" them as with the ordinary spinnaker, since they are hanked to their jackstays.

Whether this rig will be equally effective in holding a course with the sails trimmed askew, to bring the wind slightly on either quarter, is a question which I cannot now answer. But I have sailed the model in a quartering breeze, replacing the forestays'l by a weather spinnaker, and her performance proved satisfactory in that the spinnaker — being to weather — neutralized to a certain extent the rounding-to couples of the remaining fore-and-aft sails, thus reducing the amount of helm normally required. Whether it would be practical, or even desirable, to carry this weather sail in this manner and under actual cruising conditions, remains to be seen. An obvious objection is the rather acute angle at which the after guy meets the boom. There is nothing to prevent hauling the boom athwartships and slacking away the luff of the sail, thus using it in the manner of an ordinary spinnaker.

Consideration of this angle between the boom and its restraining member now prompts the question which has been raised as to the amount of strain brought upon the after guy or, in case the tiller is used, the sheet. Captain Waller mentions no difficulty, but then his spinnakers had an area of but 120 square feet each, or a total of 240 square feet for his little yawl, which was only 26 feet overall, 22½ feet waterline, 8 feet beam, and 3½ feet draft. One is tempted to comment that if this rig functioned so well with so small a boat, it should serve even better in a larger craft. The square rig carried on Conor O'Brien's *Saoirse* consisted of a foresail of 400 square feet hung on a yard 29 feet long, together with a

An Old-World Atmosphere in a Gorgeous Mountain Setting



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at Murray Bay, Province of Quebec

WAKING at dawn with the scent of balsam and the tang of the sea filling your bedroom, you may watch the serene light of the sunrise transforming the vast reaches of the St. Lawrence River. That gilded, becalmed schooner might be Jacques Cartier's "*La Grande Hermine*" lying-to in the bay—the thought belied by the faint plume of smoke from a distant ocean greyhound headed for Quebec. Several slender yachts are anchored beyond the wharf, their brasswork gleaming like new gold.

At the breakfast table—the river you caught sleeping now defiantly blue, its waters dancing beneath the opened casements—you plan your day. A round on the famous Manoir links, high up in the hills, or a few sets of tennis on wonderful *en-tous-cas* courts, followed by a plunge in the large outdoor swimming pool where at noon-day fashionable Murray Bay foregathers. In the afternoon, perhaps a drive in the picturesque countryside or a gallop through wooded bridle paths before dressing for dinner. Later, dancing, and a stroll on the terrace beneath the stars and the pale flicker of the northern lights.

We would like to send you an illustrated booklet describing this northern paradise in French Canada. A pamphlet entitled "*Freedom from Hay-Fever at Murray Bay*" may also interest you or a friend. Both will be mailed gladly on request.

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The return summer railway fare between New York and Montreal, a ten hour journey, is $22.42 ...lower berth, both ways, $7.50. From Montreal to Murray Bay by steamer, a sixteen hour sail, and return, is $29.80, meals and berth included. Murray Bay may also be reached from Montreal by rail or motor. MANOIR RICHELIEU Rates: American Plan, one person, $10.00 to $15.00 per day; two persons, $20.00 to $28.00 per day. Special rates by the month or the season. Every room with private bath. Sitting room suites available

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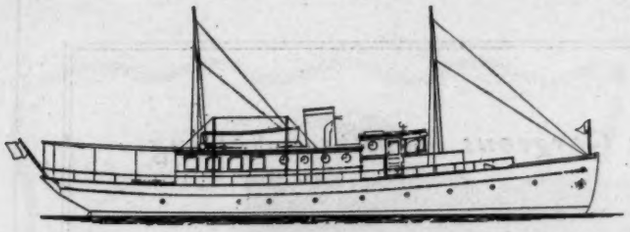

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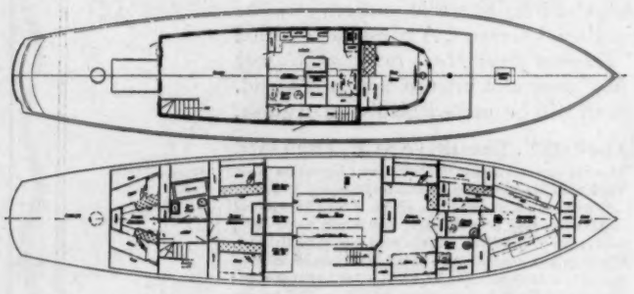


Length over all, 86'; l.w.l., 77' 6"
Beam, 19'; draft, 7'
Cruising radius, 1400 miles

John G. Alden

Naval Architect
148 STATE STREET

Yacht Broker
BOSTON, MASS.

tops'l of 285 square feet, making a total of 685 square feet. For a 42-footer, I laid down a pair of spinnakers 40 feet on the hoist and 15 feet 8 inches deep, each having an area of 310 square feet, or a total of 620 square feet. Their luffs are spread 3 feet at the heads and 4 feet at the tacks.

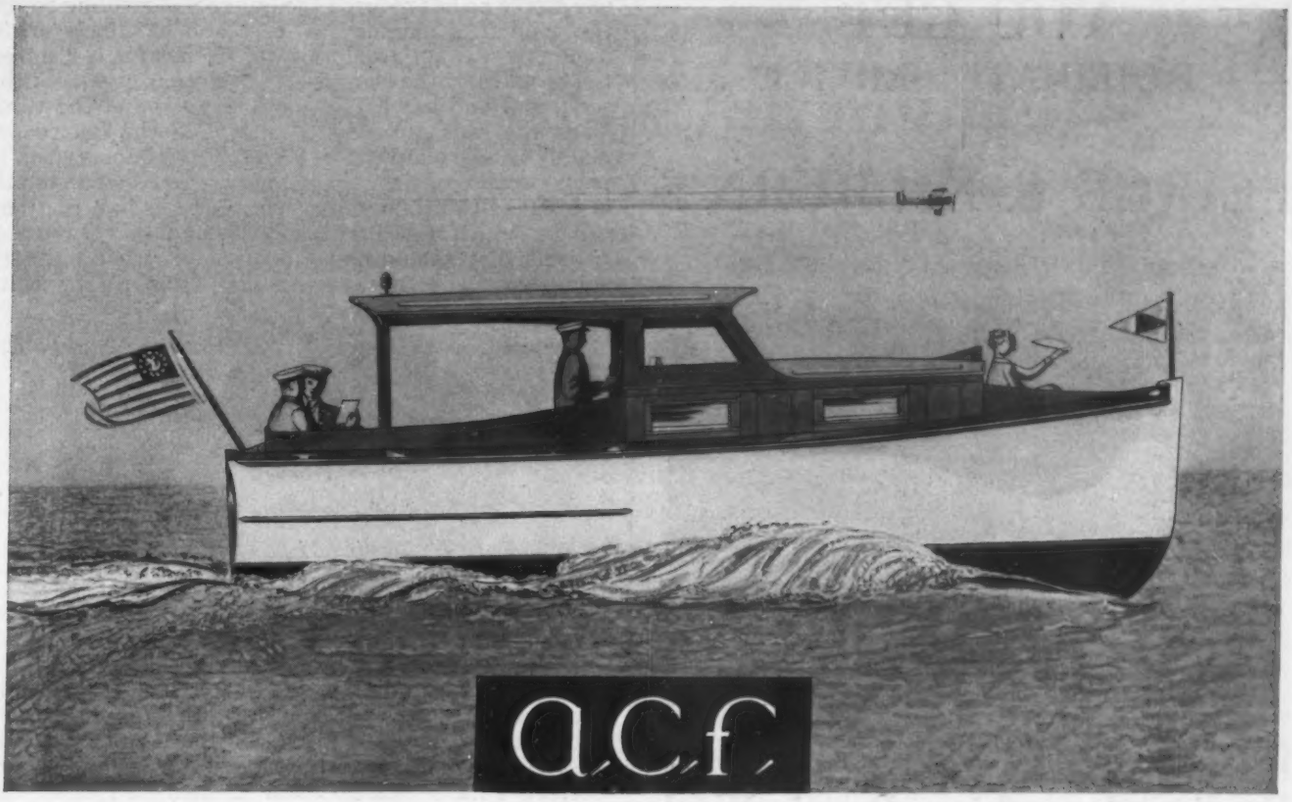
With a wind velocity of 20 knots and a corresponding pressure of 2.67 pounds per square foot, the pull at the clew and normal to the boom would be very close to 300 pounds. Since the guy, or sheet, as the case may be, is at an angle of 43½° with the boom, the resultant pull on the sheet as the vessel begins to gather way would be around 400 pounds. As the vessel attains a probable speed of say seven knots before the wind, the pull on each sheet would be reduced to about 200 pounds. As the wind velocity increases to 30 miles an hour, the pull on the sheet would rise to 450 pounds, which is not an alarming figure. Above 30 miles, one would want to begin to think about shortening down perhaps to a pair of spitfires, or step-ins, of about half the usual size. While for actual running under bare poles, I believe it would be well worth trying a sort of double running-sail, after the manner of the twin spinnakers but with their luffs joined to make one sail whose bunt would lie snug around the after side of the mast, the two clews being stretched down to ringbolts on either rail and well forward of the mast — at an angle of 45°. Such an arrangement, having an area of but a few square yards, would contribute only enough additional speed to augment steerageway — there are times when you actually *want* more speed — while its action in helping to keep the bow directly down wind when riding the crest of a breaking sea would add considerably to the handiness of the vessel and the safety of her crew. (Sketch III.)

The guys for the 42-footer's spinnakers would be of ¼-inch or 5/16-inch wire with short gun tackles at the running ends for purposes of adjustment. In case the guys are used as sheets, they should be brought inboard over sheaves of at least 6-inch diameter, and I believe it might be well to use aeroplane elastic to help bring the tiller home after a sheer has been corrected. Where a wheel is used, as is more common in this country, a wooden drum of the same diameter as the rim can be made to bolt to the face of the wheel, and the spinnaker sheets pased over the drum.

But all this, I believe, would be bunglesome and unnecessary. Most two-stickers of the orthodox type, wearing twin spinnakers on their forward mast, should be able to go down wind perfectly with the guys belayed and the tiller or wheel loosely becketed, the rider trailing amidships.

As for hull type, it may be that fairly quick steerers having more or less rounded keel contours will be more amenable to self-steering under this rig than hulls having long drag keels. In the case of the model, for instance, when I altered the reverse angle of her keel by adding a skeg of full length which gave a long drag of normal slope to her keel bottom, and thus brought the *CLP* a considerable distance *abaft* its normal position, I found that she did not perform nearly so well. In fact, she actually brought the wind abeam and held it there, although there was some attempt to square away at times. Removal of the skeg and the insertion, just forward of the rudder, of a centerboard-like fin which functioned as a damper rather than as an agent in bringing the *CLR* only a slight distance aft again, altered her behavior immediately. Here was a nut for the wise ones to crack, and I might add that I found many others of a similar nature whose only possible solution ran somewhat contrary to our present day theories of hull action in sailing craft.

Taken by and large, there seem to be many advantages on the side of Captain Waller's twin spinnakers. In



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one stroke he has reduced the business of steering before the wind to a minimum of ease and handiness or, in some cases, to an absolute zero. He has further solved the problem of the complicated gear that goes with the squaresail and has halved both the sail and the yard. Thus the sails are easy to stow and the booms are readily handled and can be used for boat booms when in port. Because of their shape and the fact that the draft is designed to be along the long edges, as in a jib, they can be used for headsails in case of need. For ocean cruising they should be made of heavier than ordinary spinnaker material, approaching outer jib or club-topsail weight.

* See article on the Dhow type in YACHTING for February, 1927.

\+ + +

Across the Atlantic in "Evalu"

(Continued from page 48)

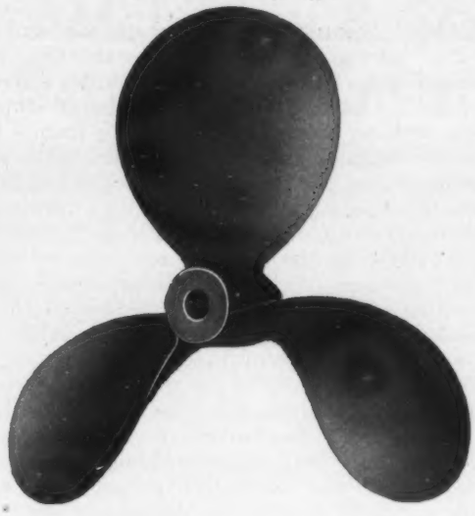
The calm was broken by an Easterly breeze which drove *Evalu* to the south, and to a landfall. On the evening of September 3rd, at 8:45, we saw the flashing white light of Cape St. Vincent, 20 miles away on our port beam. This landfall proved my calculations to be exactly right. I now felt confident of my ability to take a boat almost anywhere. It also proved to me that the Martelli method of finding longitude is reliable and correct. I have used no other method on this voyage, and *Evalu* has been brought safely across the Atlantic without my once resorting to Bowditch.

Light head winds or calms followed for several days. We beat about Cape Spartel for two days, waiting for a favorable chance to make the Straits. At last we took a long slant, and, with the lightest of breezes, entered the Straits of Gibraltar, barely moving. The current, however, sets from the Atlantic into the Mediterranean, and it carried us through the Straits and to Gibraltar. At last, on the morning of September 9th, 1930, we dropped our anchor in Gibraltar, completing our Transatlantic crossing, fourteen days out from Ponta Delgada.

In the light of the experience of this voyage, the only change I would make in *Evalu* would be in her rig. I would like to give her a ketch rig, with which I think she would be easier to handle. Her hull and flush deck proved to be ideal for deep-water cruising, and in heavy weather she is as dry as any boat can be. She is a floating home, a nice home, the kind of a boat you hate to part with. And she is fast; she will travel well whether the breeze be light or heavy.

We stayed only a day and a half in Gibraltar, and set sail for Barcelona where, we were told, a big reception awaited us. After a stop in Melilla, and many days of flat calms in the Mediterranean, we finally arrived in Barcelona on the fifth of October, 1930. The reception that awaited us was indeed magnificent. The wharfs and piers were black with people who cheered us wildly as we entered. The fact that I am a native of Barcelona was probably the cause of all this ardor.

And now, as I write on the first of March, 1931, I am getting ready to go to sea again in the little ship, bound around the world. The bug of Adventure has bitten deep into me, and I cannot stay put. The sea calls me, and calls me so strongly that I cannot settle on land. So on we go. I hope to send in accounts of our further adventures. I intend to follow the track of Slocum. In the Pacific, however, I shall seek the farthest and remotest isles. Ponce de Leon, my countryman, sought the Fountain of Youth; I am going to see if I can find an island which I can truly call Paradise.



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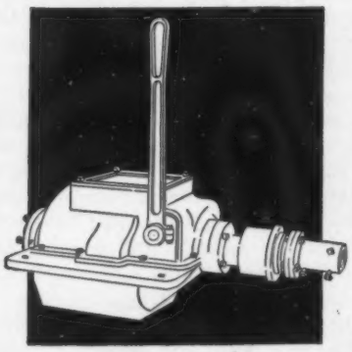

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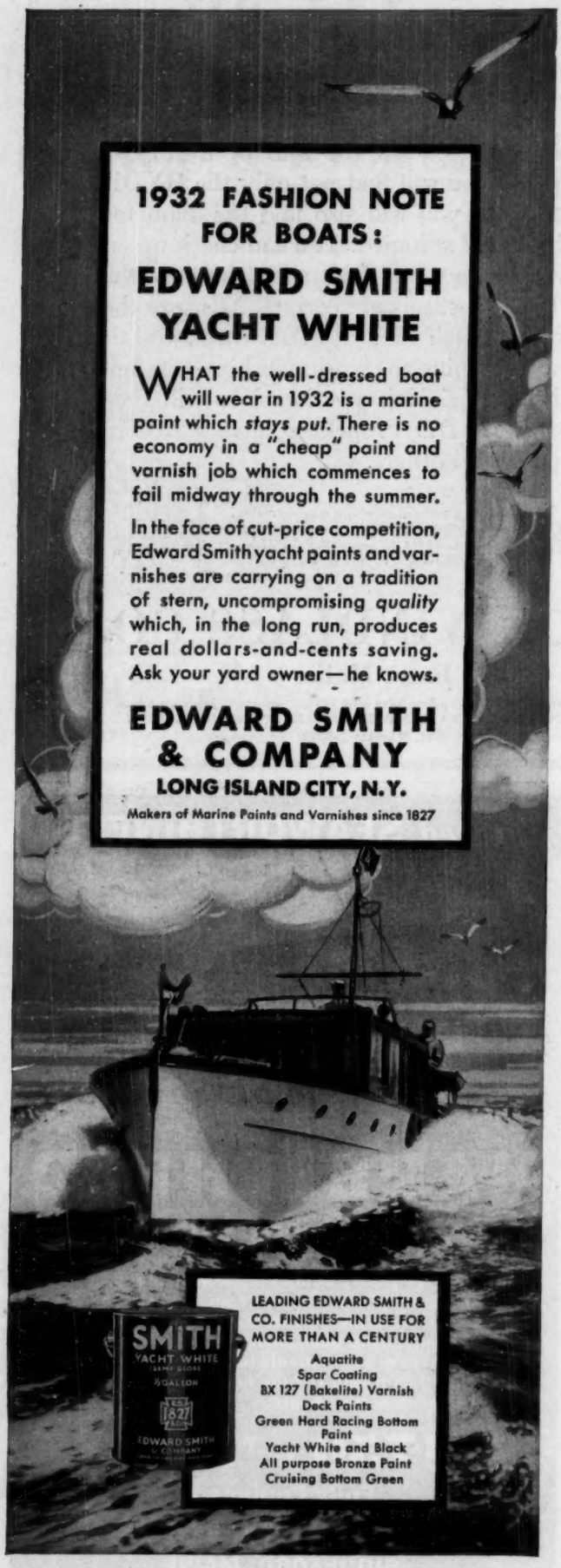
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The Friendship Sloop

(*Continued from page 51*)

keel in this boat). Frames were of oak, steamed and bent, 1½″ by 2¾″ on the flat. It was noticeable that many frames were broken in the wake of the tuck, where the curvature is very hard. The frames are spaced 10 inches on centers, with no floors, the heels of the frames being nailed to the keel. There were few knees, two at the quarters and two at the partners, a block being worked in, in place of a breasthook. The fastenings were galvanized iron throughout. The deck was 2″ by 2″ pine, bent to the sweep of the sides. There were no clamps, shelves or stringers, their place being taken by the ¼-inch ceiling and a peculiar construction in the way of the plankshеer. This consisted of a thick plank pieced together and fitted like an ordinary covering board, but instead of being at the top of the deck beams it was at the underside of the deck planking, the heads of the frames being nailed to the outside of this plank and the deck beams notched into the inboard edge, flush on top. The deck planking was nailed to both the beams and to this plank wherever possible to strengthen the joining of the deck and sides. In this boat, the sheer plank appeared to be of oak, 2½ inches thick and about 8 inches wide in most places. The sheer plank ran from breasthook to transom knees. It will be seen that this construction takes the place of sheer clamp and shelf, its weakness being due more to improper fastenings than to poor design. The most serious weakness is the almost general lack of floors. The frames are always bent on the flat, and are not as strong as desirable, allowing the hull to work a good deal as the age of the sloop increases. Taking out the ceiling is a risky procedure, as much of the stiffness of the hull is obtained from these members; yet the ceiling, usually carried too high, causes rot to set in.

It is apparent that the cheapness of the Friendship sloop, unlike that of the New Haven sharpie and the Chesapeake skipjack, was obtained through sacrifices in construction. These sloops cost little, a 28-footer cost only $780 in 1899. The same sloop built today, with good construction, would cost between $2,000 and $3,000. With the original type of construction she would cost between $1,500 and $2,000, the cost depending somewhat upon finish and accommodation. The model of the Friendship sloops is not a cheap one to build because of the hollow garboards and the shape of the stern; the swelling of the rabbet also increases the cost because of the labor required in molding it. Economy in this hull form can be had only by sacrificing finish and strength. Undoubtedly, another factor contributing to the low cost of these boats was the low cost of labor and materials at the time and place of their build.

The Friendship sloop is quite popular with yachtsmen, and a large number of them have been converted to yachts by lengthening the cuddy, changing the rig and installing motors. They make very comfortable cruisers, but most of them are slow. This is due to the almost universal custom of cutting off the ends of both bowsprit and boom, thus reducing the sail area to a great extent and so spoiling the sailing qualities. This is done, of course, to make the rig easier to handle. It would be infinitely better to put in a longer mast and to increase the hoist when the bowsprit and boom are cut down, so as to retain the same amount of sail area as the original rig. Due to the great stability of these sloops they can carry the higher rig with safety.

Yacht designers, particularly in the region of Boston, have designed many modifications of the type. These are less powerful than the original type, and represent one of the best classes of any of the keel cruising sloops now popular. Such yacht adaptations usually have modern

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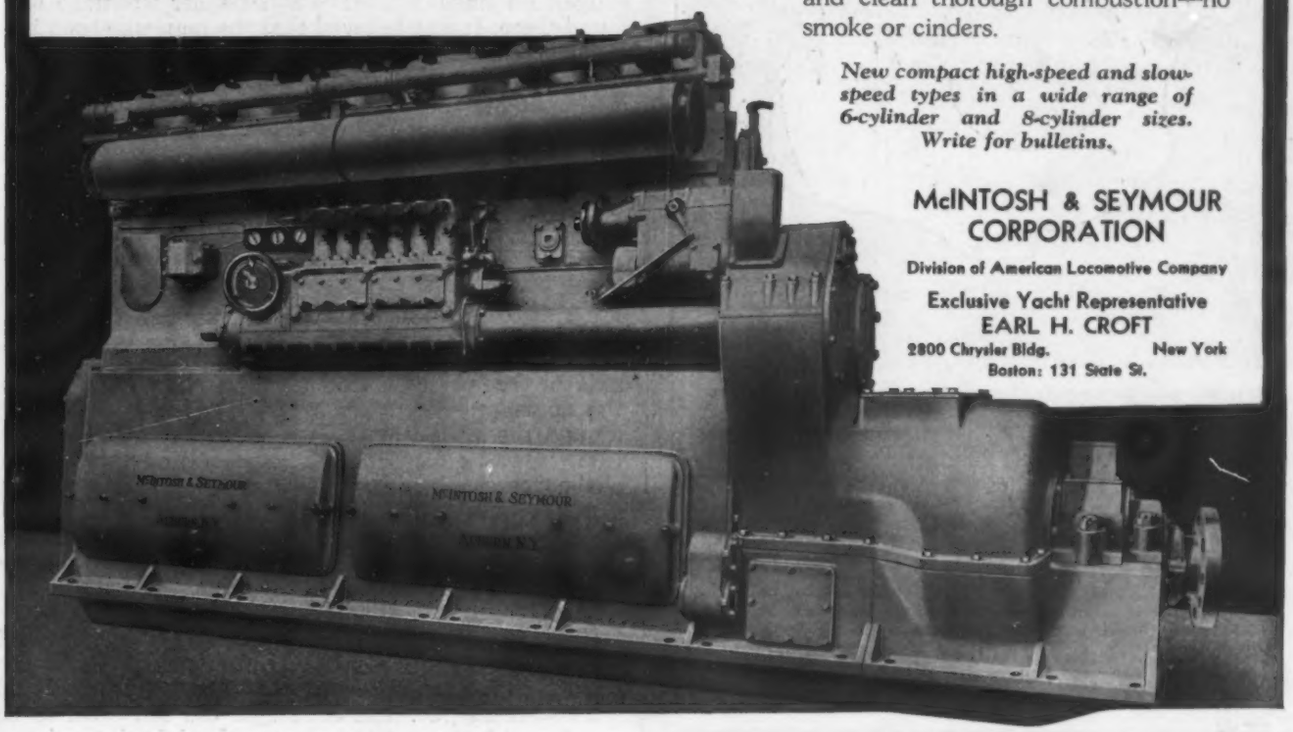

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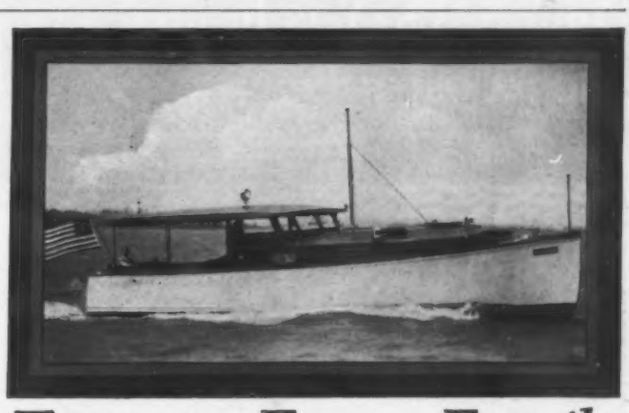

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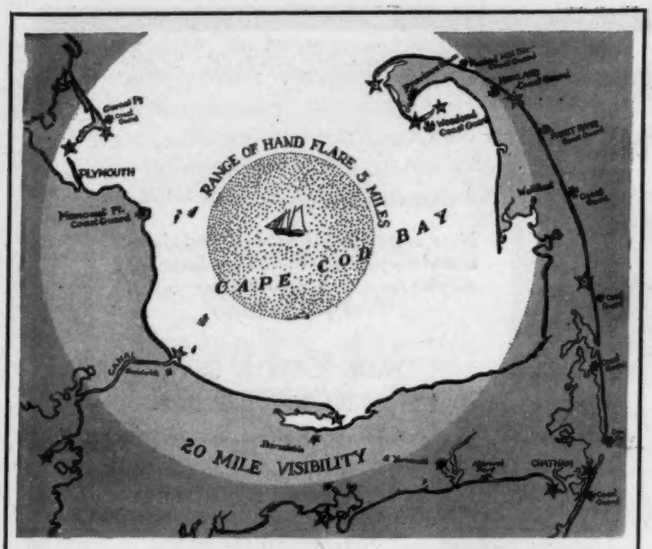

The above chart graphically illustrates the remarkable visibility range of our Parachute Signal Light, which can be seen for a distance of over 25 miles, as compared with the ordinary hand torch type of signal with a maximum range of less than 5 miles. The thoughtful yachtsman can see at a glance the vastly superior efficiency of our Parachute Signal Light.

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curved stems, as did some of the last of the Morse-built Friendship sloops. It is a pity that the beautiful clipper bow is not being retained in those built for yachts.

Friendship sloops have made long voyages. Last fall a small sloop of this type was stolen at Quincy, Mass., and the "pirate" appears to have sailed her to the coast of Holland single-handed — at least her wreckage was found there. It was believed that the man who took her lost her and his life through the lack of heavy ground tackle. Another small sloop is reported to be on her way across the Atlantic at this writing.

These sloops are eminently suitable for deep-water cruising and racing; they are undoubtedly superior to some of the much-touted foreign types that have received so much attention of late.

\+ + +

Making Australian Yachting History

(*Continued from page 31*)

reduce the visitor's lead. But a shift of wind to the north prevented her, and when the yachts jibed around the second mark *Vanessa* still retained a good lead. It was a reach to the finish and on this leg the challenger increased her lead by 6 seconds, and crossed 1 minute and 36 seconds ahead. With her time allowance, she thus won by 3 minutes, 23 seconds, and the races were one-all. As the yachts had proved to be so evenly matched in the first two heats, the contest now developed into a battle between skippers and crews.

The third race found a light breeze at the start and both boats began the battle with Genoa jibs. But the wind soon freshened and these headsails were replaced with working jibs. The challenger did not seem to be moving with the same freedom as the defender and was making more fuss in the surface chop, so that the difference in speed was more noticeable than at any other time during the contest.

The wind gradually increased in strength to about 18 miles, bringing up the sea with it, conditions not to *Vanessa's* liking. *Norn* was also holding a better wind and was reveling in the sea, so that at the end of the 10-mile beat, she was 7 minutes, 27 seconds ahead. The run to the finish was uneventful except that *Norn* seemed to lose the wind for a time and the Victorian yacht gained 2 minutes, 15 seconds. The defender's lead was too long to overcome, however, and she crossed the line 5 minutes, 12 seconds to the good, well within her allowance.

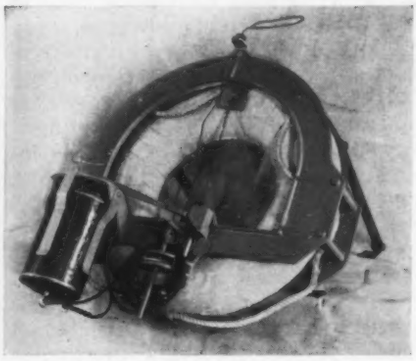
The fourth race, on January 25th, found a medium breeze of some 18 miles blowing. *Vanessa* got the jump on *Norn* at the start, when the latter did not tack quickly enough to cover the challenger, which was able to lee-bow the defender and force her about, *Vanessa* tacking with her. For some unaccountable reason *Vanessa* overstood the mark and *Norn* rounded with a clear lead of over a minute. *Norn* increased this by 12 seconds on the next leg and was 1 minute, 32 seconds to the good as they jibed around the mark. The challenger was, however, 15 seconds inside of her allowance and it became a question of whether she could hold enough of this to win on the broad reach to the finish. She did, for *Norn* could increase her lead by only 5 seconds, and *Vanessa* thus won on her allowance by 10 seconds. This was the closest finish of any heat ever sailed in a Sayonara Cup contest. The yachts were now tied at two races each, making a fifth race necessary, the first time this had occurred in one of these matches.

The fifth and final heat was sailed on January 28th, under conditions which, for a time, were most disconcerting. At the start there was little or no wind, while an extremely dense fog, which had rolled down about an

The Johnson Life Ring and Water Light Holder

(*Continued from page 81*)

the life preserver loose, and has lost valuable time. Either the lashings are of heavy twine or marline, and there is no knife handy, or the life preserver is stuck in a rack from numerous applications of paint or varnish. And if it is at night, the water light doesn't work. All this uncertainty is now a thing of the past to all yachts equipped with the Johnson Life Ring and Water Light Holder. The accompanying photograph shows this new invention, which is quick and certain in action, and so simple that any landlubber can use it successfully. Not only is the life ring freed immediately, by a jerk on a lanyard, but the seal of the water light can is broken and the can dragged out of its holder by positive mechanical means. All moving parts have clearances which no amount of corrosion can jam, nor can any amount of paint keep the ring in the holder once the copper-cored lanyard is jerked. In other words, the Johnson Holder is fool-proof and certain in action, day or night. It is manufactured by the Mechanical Improvements Corporation, 905 Division Street, Camden, New Jersey.



Johnson life ring and water light holder

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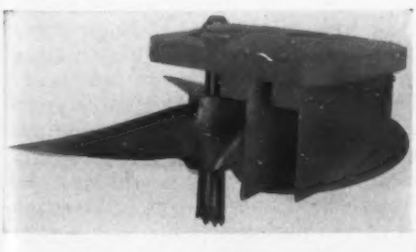
Further information may be obtained by writing to Acme Propeller Templates, 2212 Calvert Ave., Detroit, Mich.



The Acme propeller template

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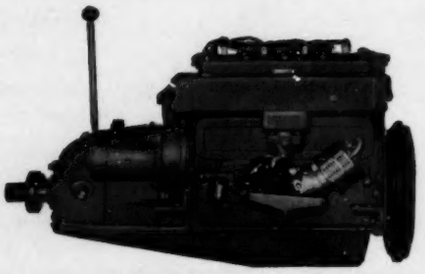

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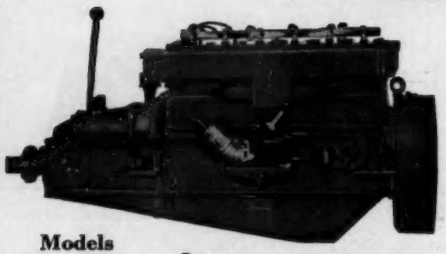

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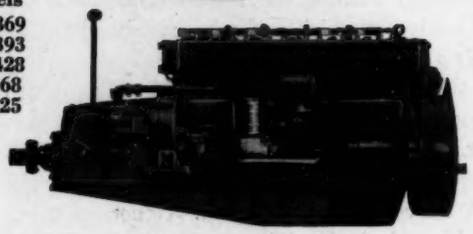

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hour before, made it impossible to see one end of the starting line from the other. The line was, therefore, shortened. As the starting gun fired, both yachts, which had run along the line with the wind on their starboard sides, were across and had to be recalled, recrossing again on the starboard tack, with *Norn* to windward. She soon drew out clear ahead of *Vanessa* until the latter ran into a better wind.

By this time the fog had lifted considerably, although the wind was very light, and *Norn* carried on inshore on the starboard tack. Here she was unfortunate in striking a calm patch, which was not felt by *Vanessa*, and which proved to be *Norn's* undoing. When the yachts again met she was fully 3 minutes astern. *Norn* was sailing slightly better, however, and all the way to the mark, which was again 10 miles to windward, she gradually decreased *Vanessa's* lead until, when the mark was rounded, she was only 45 seconds astern. Both yachts jibed at the mark, and with spinnakers drawing, *Norn* began the impossible task of gaining 45 seconds, plus an additional 1 minute, 42 seconds of time allowance.

She made a great effort, and about three-quarters of an hour after squaring away had drawn level, on *Vanessa's* weather. Both yachts ran neck-and-neck for some time, *Norn* eventually pulling clear. As the finishing line drew nearer, we, in *Norn*, realized that the contest was all but over, and that the gun would soon fire, marking the culmination of our efforts to retain the Sayonara Cup, which would now be carried back to Victoria. However, as we glanced at *Vanessa*, so close astern, we could not help but admire the little ship and the men who had sailed her with that indomitable spirit and will to win that was now bringing the state they represented victory for the first time in twenty-two years.

When the gun eventually did fire, we were 26 seconds ahead of *Vanessa*, and this time, deducted from her allowance of 1 minute, 42 seconds, gave the challenger victory in the fifth and deciding heat by 1 minute, 16 seconds. It was the end of a long, hard fight, and we in *Norn* like to think that we were philosophical in our defeat. We felt that we had done our best, there had been no mistakes, and there were no regrets.

The way the races were sailed reminds one very much of the way the Seawanhaka Cup was competed for the time before last, when *Caryl* so narrowly defeated *Gypsy*. In those races *Caryl's* finishing margin over her three wins amounted to less than *Gypsy's* for her two. This was also the case with *Norn* and *Vanessa* this year; in fact, over the 102 course miles sailed in the five heats, *Norn* finished ahead of *Vanessa* by a margin of 9 minutes, 24 seconds, this margin being reduced by the aggregate time allowance of 8 minutes and 40 seconds, to 44 seconds. Thus *Norn* was actually 44 seconds faster than *Vanessa* over the five courses. It is hard to imagine that any two yachts could be more evenly matched.

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Through France on a Forty-Footer

(*Continued from page 36*)

out in a burst of glory. The days were clear and sunny and the foliage on the river banks ran through every shade of color, from greens and light yellows to the deepest of scarlet. We were forced to run rather slowly as there are a number of private homes along this stretch of the river, the majority having small private landings to which a variety of small boats were rather carelessly tied. I was a little worried that our wash might sink one of these, which perhaps would have meant a reception committee composed of the national police at the next lock.

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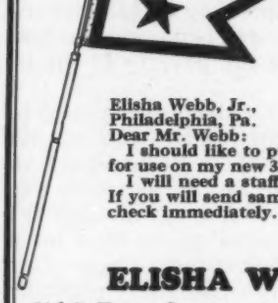

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That day we left the Seine for the Yonne at a little place called Montereau. Evening found us stuck outside a lock which refused to open, due to the lateness of the hour. We were still two kilometers from Pont sur Yonne. With flashlights we searched the water's edge until we found a spot free from projecting rocks, tied to the bank for the night, left Jack on board and hiked down the tow path to the town for dinner.

On the following day we arrived in time for lunch at Sens, a town of considerable size, well known, I believe, for its gastronomic specialty, snails. We grimly determined to have some of these for lunch; however, the sight of others partaking of this rubbery delicacy softened our determination to such an extent that we compromised on an omelette. We went through six locks that day and spent the night at the quay in the quiet little town of Villeneuve. The second evening following found us at La Roche, the entrance to the Bourgoyne Canal. Here we were tied to a wooden barge with our bow pointing towards the dungeon-like entrance of the first lock. The town itself is peculiarly unattractive, being nothing more than a railroad junction. It has a hotel of sorts, a depressing main street and a horrible modernistic church which is not yet finished, due either to the good taste or the poverty of the inhabitants.

In the morning, after a considerable delay caused by barges ahead of us, we cautiously felt our way into the lock. It was much smaller than those we had been accustomed to on the rivers, and the lift, as nearly as I can remember, was about ten feet. Once through this lock we commenced what was possibly the most interesting, but certainly the most monotonous phase of our cruise. Taking the *Vacuum* down this canal reminded me strongly of driving a large motor truck very slowly down a winding state road. I had heard rumors the night before that two locks somewhere along the canal had broken down. When we arrived at Brienon, some eleven kilometers from La Roche, we discovered this to be true. Brienon is a rather pleasant little place, which was fortunate, as we saw a great deal of it. The broken locks were just beyond and ten days passed before they were repaired

Our reception, however, was a little unfortunate. Most of the towns along the canal have what is known as basins. These are nothing more than small sections of the canal greatly widened with quays at the side for the loading and unloading of goods. Jack, during the last few days, had caught the fishing bug from the patient gentlemen he had seen sitting tirelessly along the banks of the river. As we left the boat at Brienon, bound for a tour of inspection, I noticed that he was preparing the fishing tackle he had inveigled us into buying. When we returned in about an hour he was under arrest. It seems that in the opinion of the town's fishing syndicate, he had been foully taking advantage of the local fish by fishing with two lines. I spoke to the man who made the arrest. "Fairness to Fish" was his platform. "One man to one fish line." That night I called on the president of the syndicate, who was the local grocer. He was pleasant but firm, insisting that the law must be enforced. Eventually he compromised; I was allowed to buy the right to fish with two lines, which I did for two dollars.

It was the following morning that Brienon was stunned by the arrival of a sea-going celebrity, Alain Gerbault. We had previously heard that he was on his way to the Mediterranean but up to now had not seen him. He arrived at about eleven o'clock, his little black boat (the new one) towed by a gasoline barge. Being the Sabbath, about half the town's population had gathered on the shore to greet him. He tied up outside of the gas barge when the latter came alongside the quay, directly

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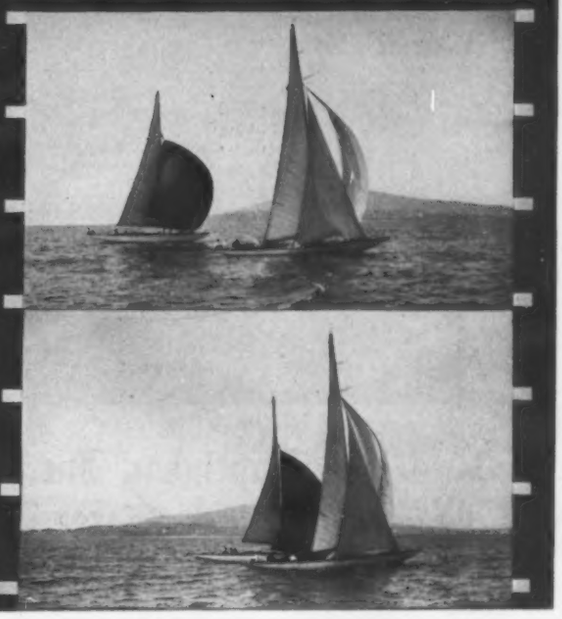

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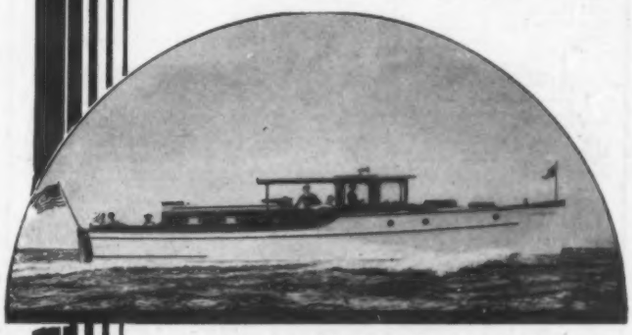

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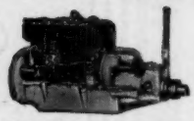

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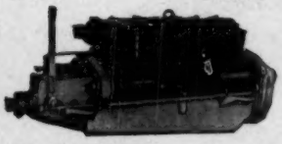

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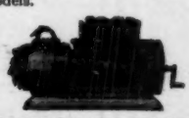

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astern of us. Ducking below as soon as he had made fast, Gerbault refused to put in a further appearance except for one fleeting moment, when he came on deck to get something. This jack-in-the-box view of the man they had come to greet did not please the populace, and after showing considerable patience they dispersed, somewhat annoyed. What might have passed in some other country as admirable modesty was here considered mere rudeness.

Eventually the locks were repaired and we resumed our journey, which we realized would be painfully slow, as on the Bourgoyne Canal, some 242 kilometers in length, there are about 200 locks. The day we left Brienon was cold and rainy and, worst of all, quite windy. There is, perhaps, nothing more annoying on a canal than wind. As soon as we slowed the *Vacuum* down for the entrance to a lock she would be either pushed against the bank or slewed around so that she approached the gate crab fashion. To add to this, we were held up by a very slow horse-drawn barge that we could not pass. The barge was not loaded and for some reason carried no water ballast, which made her stand high out of the water. We had not gone very far before the inevitable happened and the barge "corked" the whole vintage by getting stuck under a bridge. The wind had died and the atmosphere turned to something very much like vaporized pea soup. I remember thinking of a man with a club foot whom I had seen walking rather slowly and painfully along the tow path just as we left Brienon. I don't know why my thoughts turned back to this rather pathetic figure, perhaps because his means of locomotion seemed so much worse than ours.

After what seemed hours they "unstuck" the barge and by nightfall we arrived at the hamlet of St. Florentin, just five-and-a-half miles from our point of departure. This made our average speed for the day a bit over a mile an hour. At the hotel we discovered that the man with the club foot had beaten our time by three hours.

The next day we did a little better, and put 24 kilometers astern of us, coming at night to the town of Tonnere. Here, with the courage and fortitude of his New England pioneer ancestors, Bill ate snails. Questioned after dinner concerning his rather wistful expression his comment was that the meal had reminded him of his school days where, during class, he had spent a good deal of his time chewing an eraser.

Two days later, in the afternoon, we arrived at Ravieres. We had been steadily climbing since leaving Havre and had now reached an altitude of about eight or nine hundred feet. The country was rural in the extreme and, for a part of the world as densely populated as France, very deserted. We passed only occasional farmhouses and, less frequently, tiny villages. The runs between locks became shorter and as we pushed forward the canal twisted and turned, managing always to find its way through the valleys of the hills that now surrounded us.

From Ravieres we journeyed on to Montbard, some twenty kilometers distant. This is an unpleasant little town built around what I think was a mill. In any event, it had a most piercing whistle that went off on the following morning at five-thirty. It gave us an early start and in the pouring rain we went through 31 locks in approximately as many kilometers, bringing us at nightfall just short of a village called Marigny. The rain had fortunately stopped with the coming of darkness and Jack was sent forward on foot to look over the town's feeding possibilities. He returned some two hours later in the only conveyance he could procure, the village butcher's cart. It served us that night as a taxi, taking us up to the village for dinner and, later, bringing us back to the boat. Jack, as was his custom, slept

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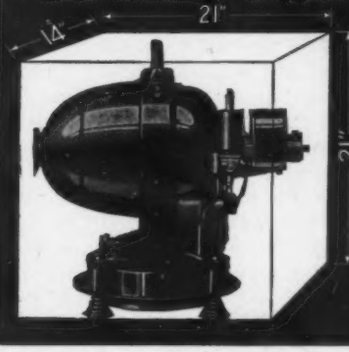

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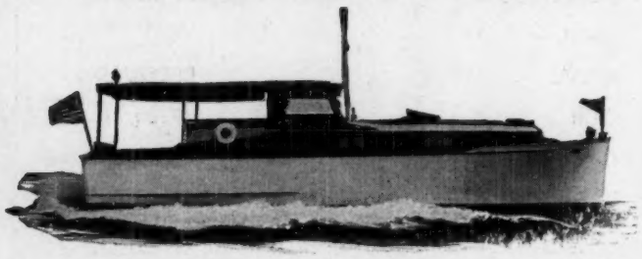

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ashore in what he later claimed was a cow barn; but I think he may have exaggerated.

The next day was one of the most unpleasant of the entire trip. In the morning the rain redoubled its efforts and a mist hung low over the canal like a blanket of dirty cotton wool. Jack, according to his cow barn story, awakened by the mooings of his companions, returned to the boat at the crack of dawn, and in the teeth of the filthy weather we set forth. Pouilly had been set as our objective for that night and to make it we were forced to run for about two hours through the pitch blackness of a rainy evening.

It was about nine when we made fast in the basin, rather larger than usual and about a kilometer from the town. Just beyond Pouilly the canal is tunneled under a mountain for three kilometers. Barges are taken through in strings of three or four by an electric tower, a dilapidated looking affair that gets its power from an overhead wire, much like the street cars of other days. We were informed on the following morning that a tree had fallen across the wire and stalled this contraption in the middle of the tunnel. The several lackadaisical gentlemen engaged on the repair job required three days to put things right. Eventually the *Vacuum* went through, very slowly, with a crosswork of logs on her forward deck to prevent her from scraping the sides of the tunnel.

As this is the highest point in the canal, 378 meters above tide water, once on the other side we started the descent. The 14-kilometer run to Crugey was interrupted by 16 locks. We were getting pretty well fed up with going through locks by this time. We were also greatly annoyed by the constant overheating of the motors, due to dirt in the canal fouling the water intakes. After a night spent at Crugey we thought of a way of overcoming the motor difficulty. We took the oars from the dinghy, lashed them to the sides of the boat with the blades under water, then ran bits of rubber hose over the side from the water pumps to the oar blades. It was not much to look at, but it worked.

Another long run into Dijon, where we stayed for two days, and then on to St. Jean de Loane, about 25 kilometers farther, the end of the Bourgoyne Canal. It was with relief that we saw the waters of the Soane — we had had enough of canals and locks to last us for some time. Early the following morning we started for Challon, the last run we were to make on inland waters without a pilot. This time the current was in our favor and the comparative clearness of the water stopped the overheating of the motors. We made very good time. The countryside was unattractive; clouds hung low, and the river was reminiscent of old lead. It even seemed that the color pigments had died in the fields and villages that we passed, leaving our whole world in different shades of gray.

We arrived at Challon about five o'clock and made arrangements for a pilot to come aboard the following morning. Between Challon and Port St. Louis pilots are necessary as the rivers between these two places are uncharted. The man who took us down to Lyons the next day was most efficient. He handled the boat as though he had been accustomed to her for weeks, and by three in the afternoon we were made fast to the quay in the heart of the city. Here we were forced to change pilots as our man was licensed to take boats as far as Lyons only. We were given the address of Mr. Joutier, a venerable gentleman of 87 who, having grown too old to handle the big Rhone tugs, now gets most of the yacht business. Upon inquiry it developed that Mr. Joutier was down the river and would not be back for two days, and there being no other pilots available we were forced to wait. I know Lyons fairly well and was just as bored as I thought I would be. It is a manufacturing city of

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